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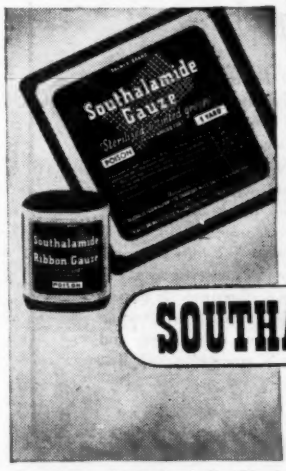

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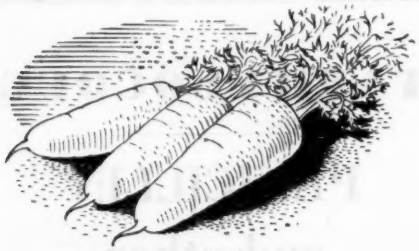

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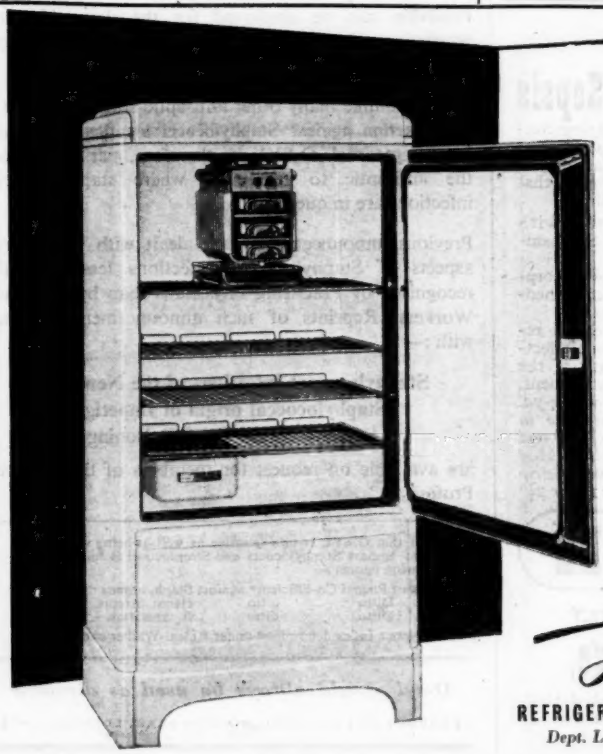

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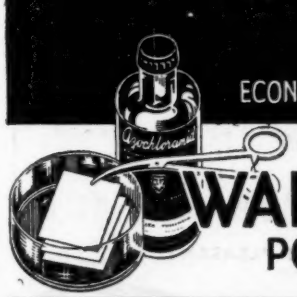

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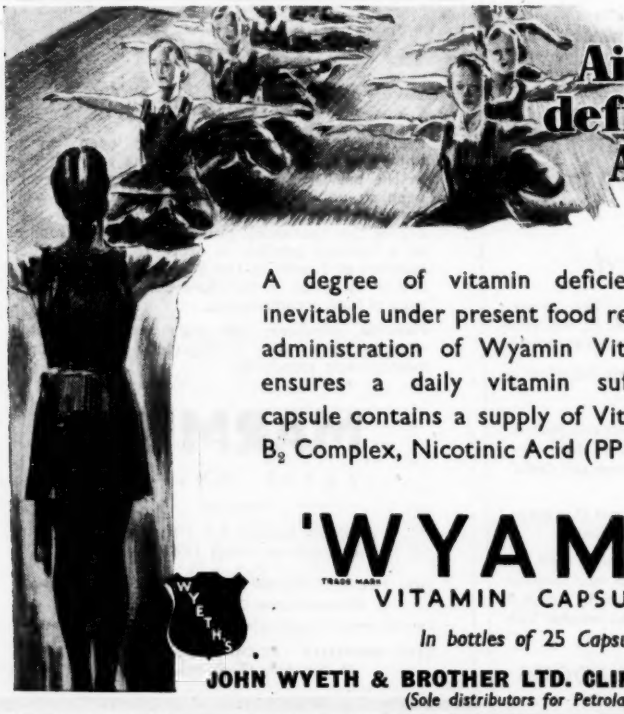

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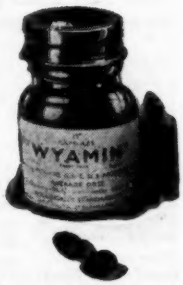

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* Gastroenterology 1945, **4**, 375.
Gastroenterology 1945, **5**, 5.
† Am. J. Dig. Dis. 1942, **9**, 354.

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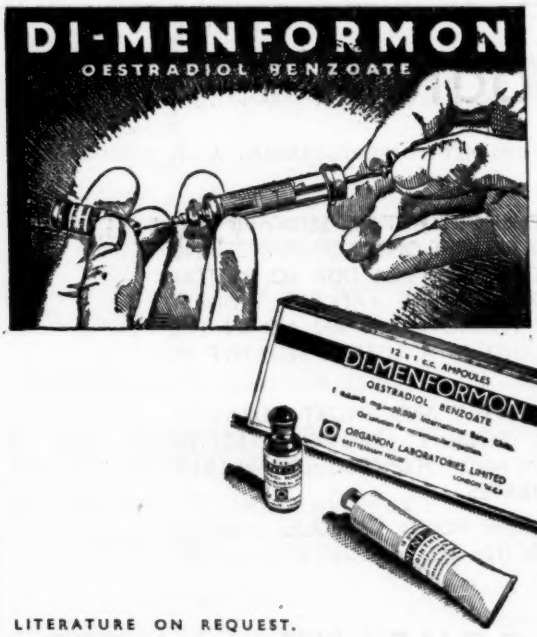

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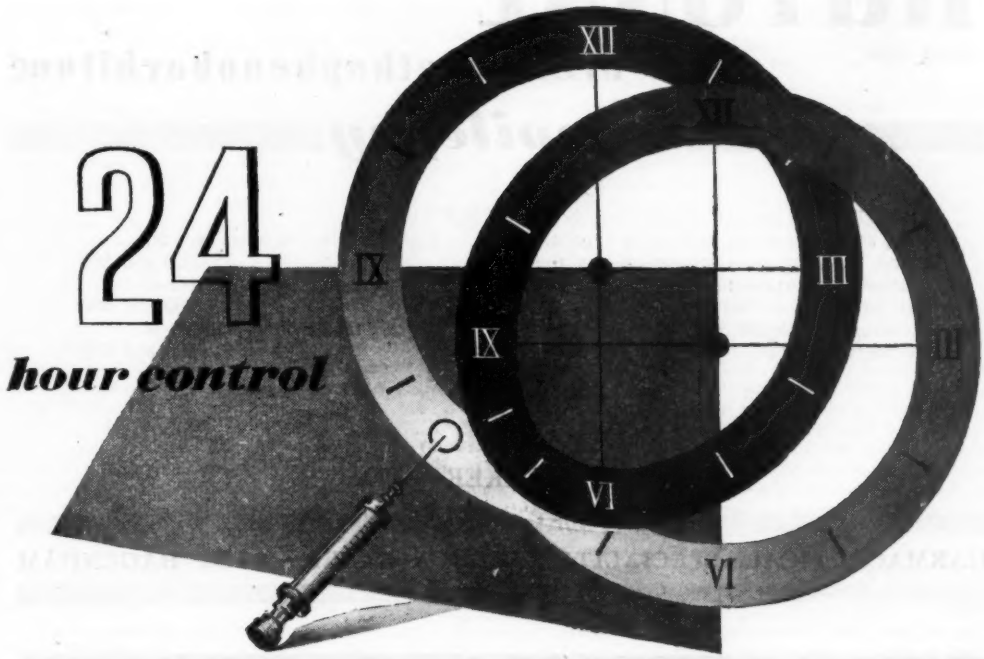

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LEUKÆMIA TREATED WITH URETHANE
COMPARED WITH DEEP X-RAY THERAPY

EDITH PATERSON, M.B. Edin., F.R.C.P.E.
ALEXANDER HADDOW, M.D., D.Sc., Ph.D. Edin.
INEZ AP THOMAS, M.B. Manc., D.M.R.
JEAN M. WATKINSON, B.Sc. Lond., M.R.C.S.

From Christie Hospital and Holt Radium Institute, Manchester, and Royal Cancer Hospital (Free), Fulham Road, London

AFTER experimental work [1] on the growth-inhibiting effects of urethane (ethylcarbamate) on animal tumours, it was decided in 1943 to test the drug in advanced cases of malignant disease in man. In some of these a fall in the leucocyte count was noticed, and this suggested the trial of urethane in patients with leukæmia.

This paper summarises the effects produced in leukæmia and compares the findings with the effects of standard X-ray therapy. A few cases were also treated with isopropylphenylcarbamate. Results of the use of these substances in breast cancer and other forms of advanced malignant disease are also given. Because of intolerance, mainly shown by nausea and vomiting, it proved impossible to administer urethane by mouth in doses proportional, on a weight basis, to those given by injection in experimental animals. In most cases the drug was dispensed in the following manner, which experience showed to be fairly satisfactory :—

Urethane	1·0 g.
Syr. aurant. (spec.)	1·5 c.cm.
Aq. chlorof. to	15·0 c.cm.

Syr. aurant. (spec.) was prepared as follows :—

Ess. aurant. no. 1 (W. J. Bush)	12·0 c.cm.
Syr. simplex to	120·0 c.cm.

MYELOID LEUKÆMIA TREATED WITH URETHANE

We treated 19 cases of myeloid leukæmia (10 in males and 9 in females), of which 18 were chronic, symptoms having lasted 1–33 months before treatment with urethane ; one (case 13) was regarded as acute myeloblastic leukæmia. The mean period of observation has been six months ; 1 case having been observed for eleven months since treatment started, and the rest for shorter periods. Details of all cases are given in table I, and figs. 1–5 illustrate the white-cell counts and hæmoglobin levels in some of them ; 5 patients had previously had deep X-ray therapy to the spleen and had relapsed ; 6 (cases 14–19) had X-ray treatment after a trial of urethane ; these will be discussed below.

Cases Treated with Urethane only.—The following remarks summarise the findings in 13 patients who had no subsequent X-ray therapy and whose response to urethane can therefore be assessed over a longer period. All showed undoubted response to the drug, in that a dramatic fall took place in the white-cell count. Dosage was determined by the tolerance of the patient and by the rate of drop of the white-cell count. The amount of urethane necessary to produce a fall to about 20,000 white cells per c.mm. varied within wide limits (from 19 g. to 134 g.) ; this amount could not be correlated with body-weight nor with the absolute diminution in number of white cells.

The time taken for the white-cell count to fall to about 20,000 per c.mm. varied between eleven and thirty-six days, the average being thirty days. There was one exception (case 3, the only child in this series), in which the count did not fall below 20,000 until ninety-eight days had elapsed. Differential white-cell counts before and after treatment showed that the greatest percentage fall affected the myeloblasts and premyelocytes, which in most cases disappeared ; myelocytes were apparently the next most sensitive, and then metamyelocytes, while the adult polymorphs were the most resistant. The only acute myeloblastic leukæmia in the series (case 13) showed a reduction in the absolute myeloblast count to 0·2% of the original figure, although the proportion of myeloblasts to total white cells remained at over 90%.

The hæmoglobin value rose by an average of 16·6% (100%=13·8 g. Hb per 100 c.cm.) in 10 cases, remained stationary in 1 case, and fell in 2 (mean fall 9·5%). Of the 10 patients alive in October, 1945, 8 showed a mean rise in hæmoglobin of 28% and 2 a fall of 2%. It is obviously important, in assessing the value of a drug which affects the white cells, to evaluate any effect whether immediate or ultimate on the red-cell series also. If the effect at two months is examined in relation to the size of dose administered, it is found that those patients who had been given over 100 g. of urethane attained an average increase of 27% in their hæmoglobin ; this excludes 1 case in which a serious drop had occurred. Those patients who received less than 100 g. of urethane showed an average rise in hæmoglobin of only 11%.

In spite of these values, which do not indicate harmful effects on the red-cell series, and which show a greater rise of hæmoglobin in those patients who had a greater dose of the drug, 2 cases suggest that deleterious effects can arise. Case 3 (fig. 2) had a late and dangerous drop in the cells of both the white and red series after heavy dosage of urethane over a long time, but recovered with transfusions and is well six months later and at school. Case 5 died with signs and symptoms of aplasia of the hæmopoietic system, and it is felt that the drug was partly responsible. All patients were given routine iron treatment while in hospital, and blood-transfusion was given in certain cases indicated in table I.

An immediate improvement was seen in all but 4 cases and was later maintained. Of the 4 patients, 3 have died, and in 1 the general condition is stationary. Before treatment the spleen was grossly enlarged in all cases, in several almost filling the abdomen ; after treatment its size was much reduced (figs. 6–8), and in some cases the spleen became impalpable.

Cases Treated with Urethane and X-ray Therapy.—In 6 of the 19 cases X-ray therapy was given after a trial of urethane ; in 2 (cases 16 and 17) it was given because the response to the drug appeared inadequate and both of these responded well to radiation. In case 14 the white-cell count was falling, but nausea from urethane was severe. This patient continued to respond well while on X-ray therapy. Cases 15 and 19 were given X-ray therapy at the end of a remission following urethane treatment. Case 19 responded well to X rays (fig. 5). Case 15 had been treated with urethane because of his eventual lack of response to X-ray therapy, and subsequent X-ray therapy was equally unsuccessful. This patient is alive but is deteriorating. Case 18, when her condition worsened, was given a course of X-ray therapy, which was incomplete and without response. Cases 15 and 18 were both terminal when treatment was instituted with urethane or with X rays.

Side Reactions.—Nausea was present to some degree in 9 of the 19 cases, and accompanied by vomiting in 5. This symptom was relieved when the drug was given per rectum. Diarrhœa occurred in 2 cases, in 1 of which there was an intercurrent salmonella infection. Slight drowsiness was observed in 1 case.

LYMPHATIC LEUKÆMIA TREATED WITH URETHANE

Urethane was used in 13 cases of lymphatic leukæmia, 8 in males and 5 in females ; 12 were chronic, the average duration of symptoms before treatment being fourteen months. Case 20 was in the acute terminal phase, and case 21 was classed as acute lymphoblastic leukæmia. The period of observation varied from thirty-four days to eight months, the mean being four and a half months. Details are provided in table II and in figs. 9–12.

1. Haddow, A., Sexton, W. A. *Nature, Lond.* April 20, 1946, p. 500.

TABLE I—RESULTS OF URETHANE THERAPY IN MYELOID LEUKÆMIA

Case no.	Age (yr.)	Sex	Blood-counts: Initial Hb %	Initial Total white cells per c.mm.	Initial Polymorphs %	Initial Myelocytes %	Initial Myeloblasts %	After 2 months Hb %	After 2 months Total white cells per c.mm.	After 2 months Polymorphs %	After 2 months Myelocytes %	After 2 months Myeloblasts %	After mean interval 6 months Hb %	After mean interval 6 months Total white cells per c.mm.	After mean interval 6 months Polymorphs %	After mean interval 6 months Myelocytes %	After mean interval 6 months Myeloblasts %	Total amount of urethane given (g./days)	X-ray therapy	Blood-transfusion	Final result
1	22	M	48	345,000 (fig. 1)	48·5	38	4	62	5000	82	2	—	76	56,000	70	22	1·5	72/24	No	No	A
2	46	F	62	420,000	53·5	32	3	72	2300	50	(*d*)	(*d*)	87	7500	50	(*d*)	(*d*)	75/26	No	No	A
3	11	F	40	821,000 (fig. 2)	39·5	50·5	2·5	74	92,000	59	32	—	88	32,500	80	9	—	325/109	No	Yes	A
4	46	F	50	327,000	26·5	51·5	5·5	78	8500	77	3	—	72	124,000	56	19	8	173/35	No	No	B
5*	50	M	68	18,000	19	14·5	7·5	..	..	..	..	..	..	..	..	..	..	320/24	No	No	C
6*	30	M	43	51,800	—	76	13·5	..	..	..	..	..	..	..	..	..	..	63/19	No	Yes	C
7	45	M	44	335,000	37·5	48	7·5	60	6200	59	12	—	42	182,000	..	..	..	122/50	No	No	B[c]
8	57	M	60	220,500	54	34·5	2	84	4800	79	1	—	98	38,000	81	11	—	138/28	No	No	A
9	61	F	58	190,000	58	37·5	1	63	4200	83	(*d*)	(*d*)	70	11,100	84	(*d*)	(*d*)	132/34	Yes	No	A
10	53	F	40	246,000	48·5	44·5	1·5	40	5400	82	(*d*)	(*d*)	38	61,000	75	19	1	71/26	No	No	B
11	50	F	52	680,000 (fig. 3)	50	31·5	0·5	80	4800	70	5	—	100	18,200	96	(*d*)	(*d*)	119/40	No	No	A
12	18	M	61	159,400	19	67·5	6·5	70	19,000	37	46	5	64	12,800	66	21	—	93/31	Yes	No	A
13*	16	M	50	868,000	—	—	98	..	..	..	..	..	..	..	..	..	..	84/28	No	No	C
14	59	M	52	404,000	..	..	..	60	3900‡	60	(*d*)	(*d*)	90	33,000‡	71	18	—	63/18	Yes	No	A
15	49	M	82	72,000	50·5	39·5	4	78	25,200	84	6	—	..	..	..	..	..	139/27	Yes	No	B
16	60	F	46	257,000	52	36	2·5	60	7100‡	..	..	..	52	91,500‡	69	24	3	26/9	Yes	No	B
17	57	F	72	303,000	56	38	2	72	8350‡	82	10	—	69	3400‡	36	(*d*)	(*d*)	172/34	Yes	No	A
18	55	F	41	457,000 (fig. 4)	26	63·8	3·2	76	15,000	48	33	—	..	..	..	..	..	108/28	Yes	No	C
19	26	M	88	111,000 (fig. 5)	—	32	—	98	9800	73	6	—	88	9800	93	2	—	93/24	Yes	No	A

TABLE II—RESULTS OF URETHANE THERAPY IN LYMPHATIC LEUKÆMIA

						Lymc	Lymb			Lymc	Lymb			Lymc	Lymb					
20*	6	M	22	62,300	0·5	14	80	..	..	..	..	..	..	..	..	..	..	8/9	No	Yes	C
21*	8	M	34	200,400 (fig. 9)	0·4	6	93	..	..	..	..	..	..	..	..	..	..	80/42	No	Yes	C
22	48	F	62	721,200 (fig. 10)	2	97	0·5	90	6600	60	33	—	52	93,600	5	95	—	51/17	No	No	C
23†	3	M	34	1800	18	48	33	88	9600	45	45	6	..	..	..	..	..	56/56	No	Yes	C
24	68	M	50	31,700	5·5	94	—	50	17,800	..	..	..	..	..	..	..	..	92/20	Yes	No	B
25	57	M	84	55,000	13	83	3	90	10,400	24	73	—	88	12,800	23	74	—	144/25	No	No	A
26	68	M	82	37,800	8	92	—	84	24,800	10	90	—	90	31,500	..	..	..	44/11	No	No	A
27	59	M	60	754,000	0·5	99·5	—	76	83,500	..	..	..	32	74,500	..	..	..	390/63	No	No	B
28	60	F	78	78,200	7	88	3	66	25,000	3	96	1	70	22,800	23	76	—	70/60	No	No	B
29	42	F	46	466,000 (fig. 11)	2	96	2	38	232,000	3	86	(*a*)	90	11,400	44	41	(*d*)	243/31	Yes	No	A
30	67	F	44	1,359,000	(*b*)	..	..	84	28,800‡	14	34	(*c*)	88	16,500‡	..	..	..	36/11	Yes	No	A
31	51	F	72	60,400	8	91	1	74	6400‡	50	45	(*d*)	91	8000‡	44	54	(*d*)	40/5	Yes	No	A
32	48	M	48	110,500	1	99	—	30	44,100‡	4	94	—	42	6000‡	47	45	—	88/22	Yes	Yes	B

* Died within 2 months. † Died before October, 1945. ‡ Blood-count related to X-ray therapy.
A, considerably improved; B, improved but unsatisfactory; C, died.
(*a*) immature cells 11 %; (*b*) immature cells almost 100 %; (*c*) immature cells 54 %; (*d*) no immature cells.
In table II the figures in the columns headed "Lymc" refer to lymphocytes and those in the columns headed "Lymb" refer to lymphoblasts.

Urethane alone was used in 9 cases; 4 patients received X-ray therapy after a trial of urethane, and 1 of these (case 29) was again transferred to urethane treatment at a later stage with good response. Of the 13 cases, 2 did not respond to urethane, given over eleven days in case 30, and over five days in case 31. Case 30 had previously been treated with isopropylphenylcarbamate without responding, and in case 31 urethane was discontinued because of nausea. In 2 further cases X-ray therapy was instituted later because the response to urethane was considered inadequate.

On the whole it may be said that the response to urethane in lymphatic leukæmia is less good and more variable than in myeloid leukæmia. Variation is greater not only in the dose required but also in the time necessary for an adequate reduction in the white-cell count. For lymphatic leukæmia the lowest dose given was 8 g., which lowered the total white-cell count from 48,000 to 7000 in nine days. At the other extreme, 360 g. in another case had not reduced a white-cell count of 750,000 to normal limits after sixty-three days.

Cases Treated with Urethane only.—The following remarks are based on the findings in 11 cases: 9 treated exclusively with urethane, and 2 treated later with

X rays but in which the response to urethane could be studied (cases 29 and 32).

The time taken for the count to fall to about 20,000 varied between nine and forty-seven days, averaging nineteen days, in a calculation which excludes 1 aleukæmic case, 1 (case 29) which did not attain this level in 153 days and received X-ray therapy also, and

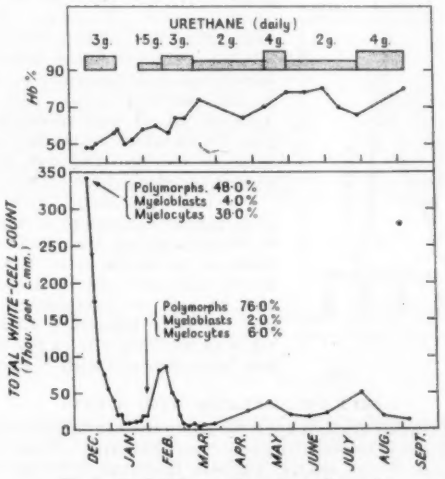

URETHANE (daily)
3g. 1·5g. 3g. 2g. 4g. 2g. 4g.
Hb %
Polymorphs 48·0 %
Myeloblasts 4·0 %
Myelocytes 38·0 %
Polymorphs 76·0 %
Myeloblasts 2·0 %
Myelocytes 6·0 %
TOTAL WHITE-CELL COUNT (Thou. per c.mm.)
DEC. JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT.

Fig. 1—Myeloid leukæmia: chart of case 1.

1 (case 27) in which the count had not reached 20,000 within three months. The total white-cell count fell in all except the aleukæmic case, in which it rose. The same was true of the lymphocyte count, which fell on an average to 22% of the original figure. The least fall (case 20) was to 48%, and here the original figure was low. The greatest fall was to 0·9% of the original (704,000). The amount of reduction was roughly proportional to the size of the pre-treatment lymphocyte count. Lymphoblasts were present in 5 cases before treatment; in 4 of these the blast cells disappeared, and in 1 (case 20) the blast-cell count was reduced to 5% of the original figure but quickly increased again on cessation of treatment. The absolute number of polymorphs fell in 5 cases and rose in 4. Where the initial absolute count was less than 2000 per c.mm., the number rose after treatment. The ratio of polymorphs to cells of the lymphocyte series rose in all cases save one, in which it remained stationary.

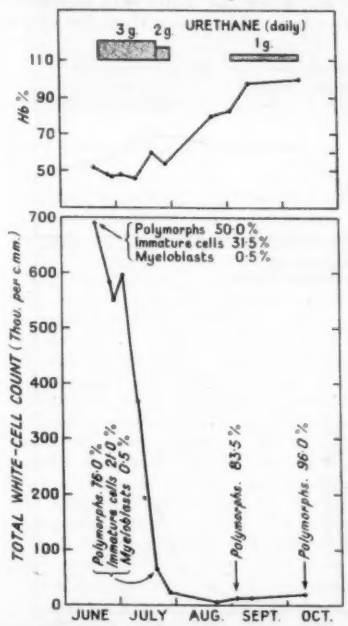


Fig. 3—Myeloid leukæmia: chart of case 11.

The hæmoglobin level rose in 7 of the 11 cases, the mean rise being 22%; 3 of these patients had blood-transfusions during the period studied. In 4 cases the hæmoglobin value fell by a mean amount of 9%. The initial hæmoglobin level was seen to be an important factor in prognosis. In 6 patients the hæmoglobin levels were 55% or higher; of these 5 are alive. In 4 patients the hæmoglobin level was below 55%; of these 3 are now dead. All 4 of these patients were given blood-transfusions, in 3 with temporary good effect; the fourth showed no benefit from blood-transfusion but is still alive and in fair condition.

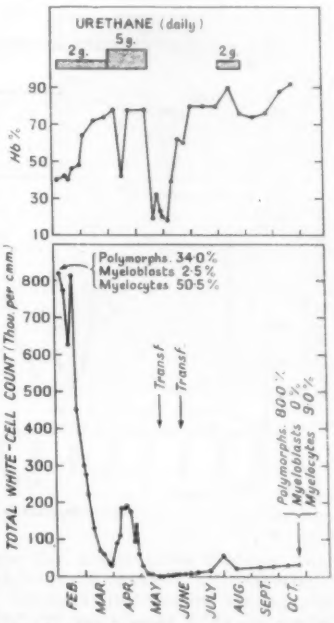


Fig. 2—Myeloid leukæmia: chart of case 3.

An immediate improvement in general condition was evident in 8 cases, blood-transfusion contributing to this improvement in 3. Enlarged lymph-nodes decreased in size (fig. 13), but in no case did they disappear. In 1 patient with diabetes (case 28) there was no improvement in general condition. Of the 11 patients 5 are alive, 3 being well, 1 in a stationary condition, and 1 now deteriorating after a remission of two and a half months; 6 have died.

Cases Treated with Urethane and X-ray Therapy.—To 2 patients (cases 30 and 31) treatment with X rays was given after a short and unsuccessful trial of urethane;

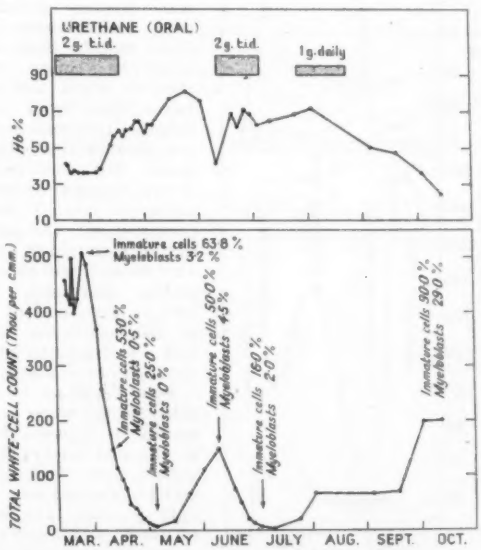


Fig. 4—Myeloid leukæmia: chart of case 18.

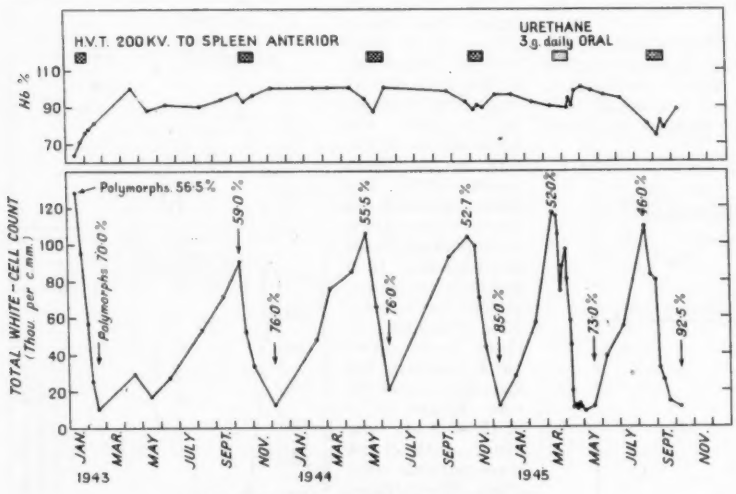


Fig. 5—Myeloid leukæmia: chart of case 19.

both are well seven and a half and five months after treatment. To 2 others X-ray therapy was given later because the response to urethane was not considered adequate; 1 of these (case 29) had first been treated with isopropylphenylcarbamate, which reduced the white-cell count only moderately. A further moderate decline followed treatment with urethane, but X-ray therapy was substituted as the response was unsatisfactory. The rate of fall remained very slow, the white-cell count being 38,000 after two months' X-ray therapy; this may possibly be explained by alteration of technique consequent on previous splenectomy. Urethane was again given, and two months later the white-cell count reached 11,000 with a hæmoglobin value of 90%. The patient is at present very well eight months from the start of treatment. Case 32 was treated satisfactorily with urethane, but three months later the white-cell count had risen to 50,000 and the hæmoglobin level was falling. Transfusion did not produce any betterment, but incomplete X-ray therapy brought about a real if slow improvement, the polymorph ratio rising from 13% to 40% and hæmoglobin increasing by 18%. This patient is in fair condition four and a half months from the start of treatment.

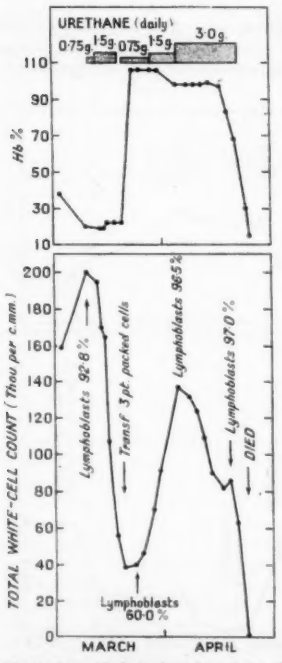


Fig. 9—Lymphatic leukæmia: chart of case 21.

Side Reactions.—No side-effects were observed in 4 cases, but 9 showed anorexia, nausea, or vomiting, and 1 had diarrhœa. In only 1 (case 31) was nausea sufficiently severe to necessitate the withdrawal of urethane.

EFFECT OF OTHER SIGNIFICANT TREATMENT ON THE RESPONSE OF MYELOID AND LYMPHATIC LEUKÆMIA TO URETHANE

Previous X-ray therapy did not interfere with the later effectiveness of urethane, as was seen in cases 9, 15, and 16 (myeloid) and 24 (lymphatic). There is a possibility that the administration of urethane enhanced the effect of subsequent radiotherapy; certainly the reaction to X rays was dramatic in all such cases except case 29, in which an unduly slow response was probably due to the technique adopted.

Previous treatment with isopropylphenylcarbamate is thought to have impaired the reaction to urethane in all the cases in which it was used—15 and 16 (myeloid) and 29 and 30 (lymphatic)—but case 29 later responded satisfactorily to urethane after a remission had been obtained with X rays.

LEUKÆMIA TREATED WITH X RAYS

Myeloid Type.—A contrast group was studied consisting of 31 cases treated by deep X-ray therapy. These were treated at one centre (Christie Hospital) between 1940 and 1944 and excluded 4 cases followed for less than one month; 19 were male and 12 female, and all were chronic.

In 30 cases treatment was applied to the spleen. Two types of treatment were used, either 200–500r a week over a period of months or 100–200r a day for short periods not exceeding three weeks. Many cases had repeated courses of treatment of either type at later stages of the disease.

For the present comparison of the effect on the blood and on the general condition the same criteria have been applied. The blood-count before treatment was compared with that taken when the white cells reached a figure of 20,000 per c.mm. The mean time for this to

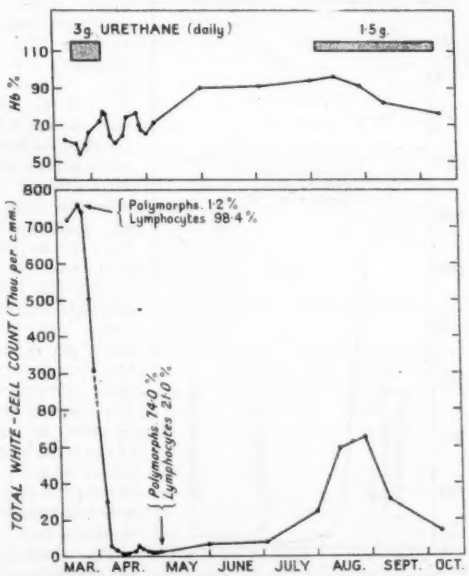


Fig. 10—Lymphatic leukæmia: chart of case 22.

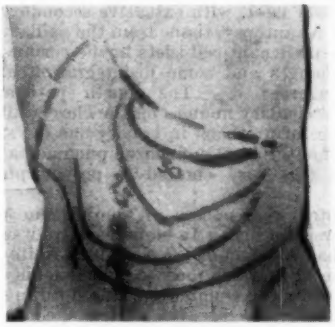
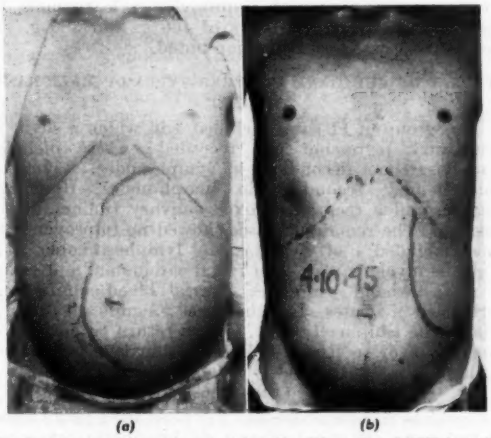


Fig. 6—Splenic outline on May 2, 14, 23, and 30, 1945 (case 6).

Fig. 8—Splenic outline on March 16, April 4 and 24, and May 11, 1945 (case 18).

Fig. 12—Splenic outline on March 23, April 4 and 10, and May 1, 1945 (case 22).

take place was thirty days, the extremes being nine days and a hundred days. Differential blood-counts showed that the greatest percentage decrease in cells occurred in myeloblasts, promyelocytes, myelocytes, and metamyelocytes, in that order, with the adult polymorphs as the most resistant. The persistence of myeloblasts or of promyelocytes indicated a worse prognosis.



(a) (b)

Fig. 7—Splenic outline (a) on July 2, 1945; (b) on Oct. 4, 1945 (case 12).

In 29 cases there was a rise in hæmoglobin, the mean increase being 17%. In 1 case the level remained stationary, and in 1 it fell slightly. Although a high initial hæmoglobin level indicated a favourable prognosis, the degree of rise after the first course of treatment was of greater importance. The mean life of patients whose hæmoglobin rose over 15% in this period was almost twice that of those whose hæmoglobin level rose 15% or less. General condition improved in 29 cases, in some instances very much. In all cases diminution was observed in the size of the spleen. Side reactions to X-ray therapy were not recorded in all cases; 9 of the 31 patients were noted as having symptoms due to treatment, such as malaise, vomiting, or diarrhœa, and 3 had local symptoms of discomfort or pain over the splenic area.

Lymphatic Type.—For comparison with the series treated with urethane an examination was made of the response to deep X-ray therapy of 14 cases of lymphatic leukæmia treated at one centre (Christie Hospital) between 1940 and 1944. The series included 12 males and 2 females; 6 patients who died within a month, or were not followed, have been omitted. All cases but one were chronic. Of the 14 patients 12 are dead.

The standard treatment was radiation applied to the spleen and in most cases also to enlarged lymph-nodes. Some patients had a short intensive course of 4–10 days' treatment (at the rate of 100–200r daily), repeated later when required; others had serial treatments of about 250r at intervals of a week or more.

A comparison was made of the blood-count before treatment with the count when it first fell to about 20,000 white cells per c.mm. The median time taken to reach this level (used because of wide spread and irregular response) was nineteen days, and extremes were six days and twenty-two weeks, excluding 2 cases which did not respond to this extent. The lymphocyte count fell in 12 cases, the drop being greatest where the initial lymphocyte count was highest. The time involved was, however, apparently independent of the initial height of the count and of the dosage used. Lymphoblasts were present in the peripheral blood in 5 cases: in 3

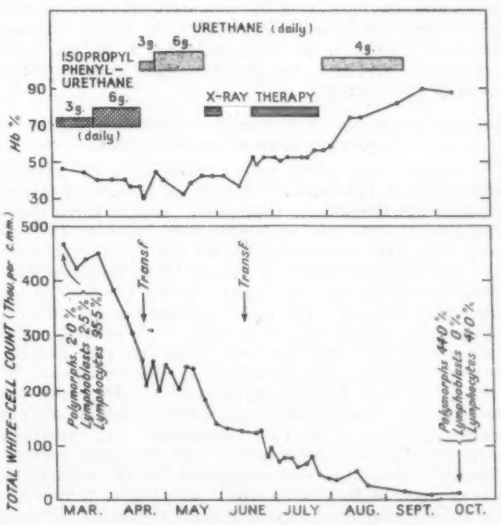


Fig. 11—Lymphatic leukæmia: chart of case 29.

they disappeared; in 1 the blast-cell count fell to 30% of the original figure; and in 1 an increase was recorded. The proportion of polymorphs increased in 10 cases, and was stationary, or fell, in 3. The absolute polymorph count rose in 4 cases, in all of which the initial white-cell count had been 2200 or less.

The hæmoglobin level rose in 7 cases (average 16%) and fell in 5 (average 6%); in 2 it remained stationary. As in the cases of myeloid leukæmia, a high initial hæmoglobin level and a considerable rise after the first course of treatment indicate a favourable prognosis. The length of time the patient remains in reasonable health can be clearly related to the rise in hæmoglobin level.

The size of the spleen and lymph-nodes was reduced in all but one of the cases where enlargement was present. In no case did enlarged lymph-nodes totally regress. Improvement in general condition was registered in 10 cases, in some not until several months had elapsed.

Comparison with Urethane.—The effects of urethane and of deep X-ray therapy are strikingly similar, both in the type of changes in the differential count and in the length of time required for the response. The rise in hæmoglobin level after urethane treatment is also similar to that following radiotherapy. No statement can yet be made comparing the length of life of patients treated by the two methods.

(a) (b)

Fig. 13—Contour of neck and enlarged lymph-nodes (a) on May 22, 1945; (b) on July 5, 1945 (case 25).

The chronic myeloid type responds very well both to urethane and to X rays. Of the lymphatic type, whereas the effects on the blood are similar in both methods of treatment, there were too few uncomplicated cases to warrant a comparison of the palliative effects of urethane with those of X-ray treatment. In acute leukæmia, whether lymphatic or myeloid, there is an undoubted response to urethane, but the results are as disappointing as in X-ray therapy.

EFFECT OF URETHANE IN CARCINOMA OF THE BREAST AND ON THE NORMAL BLOOD-COUNT

Urethane was given to 13 patients with advanced carcinoma of the breast. Only 3, or possibly 4, showed changes attributable to treatment. One of these showed reduction in the size of a recurrent mass on the chest wall after the administration of 142 g. of urethane in five and a half weeks. A month later, jaundice supervened and deposits were found in the liver. The drug was then stopped. The mass increased and death took place from abdominal metastases. A second patient had responded well for two years to the synthetic œstrogen triphenylchloroethylene, but response was failing and new lesions had appeared. After 148 g. of urethane had been given in six weeks, a malignant ulcer measuring 7 × 5 sq. cm. epithelised, and previously enlarged supraclavicular nodes were no longer palpable. Urethane treatment was continued for five months and was stopped because of intermittent nausea. A year later the patient remains in good general condition, although lesions are advancing. The third case showed epithelisation of a recurrent ulcerated mass in the chest wall after a dosage of 184 g. of urethane in twenty-four days. Death took place a year later, with extensive secondary deposits in the liver. At autopsy, tissue from the axillary region showed viable malignant-cell islets in the corium, with degenerative changes and some disintegration of the malignant-cell aggregates. The fourth patient showed flattening of secondary nodules on the chest wall after a dosage of 96 g. of urethane in twenty-one days, but died, within a month, from influenzal pneumonia. The blood-count in this case showed a polymorph leucocytosis.

The side-effects noted were nausea or vomiting in 3 cases and slight drowsiness in 2. In some cases it was found that urethane had an effect on the peripheral white-cell count. In 6 of the 11 in which repeated blood-counts were made the total white-cell count was reduced during treatment. In 5 this was moderate, the white-cell count being reduced to 40–70% of the pre-treatment figure and returning to normal on cessation of treatment. In 1 case with regression of the tumour mass the white-cell count fell from 7800 to 1200 per c.mm.; within eight days of the withdrawal of urethane the count had risen again to 2670. The cells of the polymorph series were most affected, whereas hæmoglobin and red-cell count were unchanged. It was this finding which suggested the trial of urethane in leukæmia.

Another 2 patients with advanced carcinoma of the breast were treated with isopropylphenylcarbamate for two months with total doses of 460 g. and 800 g. In neither case was any regression noted.

EFFECT OF URETHANE IN OTHER TYPES OF MALIGNANT DISEASE

This group of 11 cases included 4 in which a slight or temporary regression was recorded; these included lymphosarcoma secondary in lymph-nodes, "lympho-epithelioma" secondary in lymph-nodes, Hodgkin's disease, and a recurrent mixed salivary tumour of the antrum. The remaining cases showed no improvement; these included 1 of metastasising lymphosarcoma, 2 of multiple myelomatosis, 3 of rectal carcinoma, and 1 case of metastasising seminoma. Serial blood-counts were performed in 4 cases. In 3 there was a significant diminution in the white-cell count, with a return to normal on completion of treatment. Hæmoglobin levels remained unaltered.

SUMMARY

Urethane (ethylcarbamate) has been used in 32 cases of leukæmia (19 myeloid and 13 lymphatic) observed over periods ranging between eleven months and five weeks. The effects produced—represented in the most favourable cases by a fall in total white-cell count to normal limits, a tendency for the differential count to approach a more normal pattern, diminution in the size of the spleen and enlarged lymph-nodes, and a rise in hæmoglobin level—are remarkably similar to those obtained by standard methods of deep X-ray therapy, with which they are compared.

There is no indication that permanent benefit may result from the use of urethane in either myeloid or lymphatic leukæmia; for relapses take place and immature cells may reappear in the blood. The cases are too recent to enable any statement to be made about effect of treatment on length of life. It can, however, be said that the palliative effect is in many cases very great.

Urethane has also been administered in 13 cases of advanced carcinoma of the breast and in 11 cases of other types of malignant disease. A moderate leucopenia was observed in 9 of these. In 3 of the breast cases and 4 of the miscellaneous group there was a temporary diminution in the size of lesions.

Continued at foot of opposite page

RAPID CHEMICAL DISINFECTION OF CLEAN UNWASHED SKIN

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IN spite of seventy years of investigations it is still very difficult to give any clear account of the chemicals and their concentrations that will disinfect the skin under any particular set of practical conditions. This is largely due to the great complexity of what might appear a simple problem. For example, the hands and fingers present a problem different from that of simple skin surfaces, and the methods and materials suitable for leisurely disinfection of skin areas before operations are not necessarily the same as those needed for very quick disinfection before needle-puncture or surgical incisions in emergencies.

"The skin" may be taken to mean either the surface of the skin alone, or the surface and the depth together, while "disinfection" may be interpreted either as complete sterilisation or as adequate though incomplete elimination of bacteria.

The skin as a complex tissue of considerable thickness cannot be chemically sterilised without destroying it. The transient bacteria (Price 1938) on the surface at any moment can, however, be destroyed by several chemicals, though after a time some of the resident bacteria (Price 1938) may emerge from below, probably in and among the epithelial scales, and recontaminate the surface. These, however, are generally harmless commensals and will give no trouble when carried deeper into the tissues by a hypodermic needle or the surgeon's knife. Pathogenic bacteria on the skin are generally transient, though some species, especially *Staph. aureus* and *Strep. pyogenes*, occasionally become temporary residents, and their removal by chemicals may be impracticable. Skin carriers of *Staph. aureus* are a special problem which cannot be dealt with here.

There is an extensive literature on this subject (Kolle and Wassermann 1931, Colebrook 1941, *British Medical Journal* 1944) which it is not proposed to review.

The main object of this work has been to attack a limited part of the problem by applying a simple, reproducible, and roughly quantitative method to ascertain what solutions will "virtually disinfect" an unwashed artificially-contaminated simple flat skin surface in a very short time (15 sec.–5 min.). By "virtual disinfection" is meant the destruction of at least 99·9% of the organisms on the surface of the skin, excluding spores.

DR. EDITH PATERSON AND OTHERS

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METHOD

A standard measured area of skin is moistened with a suspension of a normal skin commensal, *Staph. (epidermidis) albus*, containing a standard number of cocci per c.cm. This is allowed to dry, and then the area is moistened with the disinfectant. After the allotted time a sterile wet swab is rubbed all over the area, and with this a plating is made on nutrient agar.

Skin Area.—By using the anterior surface of the left forearm a person can carry out the test on himself. The hairs are cut or shaved off, and a number of areas are marked out by pressing some circular object, such as the cap of a screw-cap bottle, on the skin and marking the circumference with a grease pencil. The standard area is about 24 mm. in diameter, and up to 12 or 14 of these can be treated in one experiment.

Bacterial Suspension.—From an 18–24 hr. agar culture of an epidermal white coccus a suspension is made in water to equal Brown's No. 1 tube in opacity. In this a small sterile wool swab (about 5 mm. in diameter) is dipped and the area is carefully moistened all over with the suspension, leaving no excess and not overstepping the circumference. After 1–1½ min. the area should be visibly dry.

Application of Disinfectant.—With another small swab the disinfecting solution is applied to the area in just the same way, so as to moisten it uniformly all over, without flooding or leaving excess. The area thus treated should extend slightly beyond the marked circumference.

Time.—The minimal time taken for alcoholic solutions to dry on the skin is 15–20 sec., and most aqueous solutions take 1–1½ min. Certain substances, such as 'Dettol' (undiluted or in strong emulsion) may need as much as 5 min. Most of the experiments have been done either (1) by testing directly the area has dried (15 sec., 1½ min., &c.) or (2) by leaving for a total of 5 min. from the application. In some cases—e.g., ethyl alcohol (see table 1)—the superior results of the longer period indicate that the action continues after the skin appears dry, but in other cases (pot. permang. and acriflavine in 70% alcohol) the extra "dry" time did not improve the result.

Swabbing and Plating.—A small swab is moistened with nutrient broth, excess fluid is squeezed out by pressure against the inside of the broth-tube or bottle, and the swab is carefully rubbed all over the area, being turned over and over in the process and avoiding contact with skin outside the area. The swab is then immediately streaked all over the surface of a plate of nutrient heart-extract agar, the operator turning the swab over and over during the process.

Water Control.—The suspension of cocci is applied to one or two standard areas and allowed to dry. The area is then swabbed with sterile water instead of disinfectant. When the water is dry, the usual swab is taken for a plating, which after incubation should show a very dense, even semi-confluent, colonisation. The swabbing with water is necessary to imitate the application of the disinfectant swab, which itself must remove large numbers of microbes.

Bacteriostatic Control.—If the disinfectant under test has a high bacteriostatic titre—i.e., prevents growth overnight in broth at a high dilution—a control must be set up to ensure that a bacteriostatic dose of disinfectant is not transferred by the swab from the skin area to the surface of the agar. For this purpose an area not treated with cocci is moistened with the disinfectant and after drying is swabbed on to agar in the usual way. A small loopful of the coccal suspension is then spread on the agar plate. If profuse growth takes place, the control is satisfactory; but, if inhibition is evident, the main test is vitiated (see below).

Assessment of Results.—The platings are incubated overnight and, if there is little or no growth, for a second

night. By inspection, and, where desirable by counting the colonies, records are made of "virtual disinfection," partial disinfection, or absence of action. The term "virtual disinfection" is used because it has not been found feasible to restrict the designation "disinfection" to absolutely sterile platings. In a method like this, which involves exposure of skin surface swabs and agar surface to the air, occasional contaminating colonies are bound to appear on the plates, besides those of sporing bacilli from the skin, which the disinfectant will not have eliminated. Therefore, unless more than five colonies similar to those of the test coccus develop on the plate, the result is recorded as "virtual disinfection"—always assuming that the yield of colonies from the water control runs into at least several thousand.

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EFFICACY OF VARIOUS DISINFECTANTS

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Aqueous iodine at 0·5–2% was not quite so uniformly successful in 1½ min. as alcoholic iodine in 15 sec.; but a very slight prolongation of action would presumably make it regularly effective.

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The addition to alcohol of acriflavine 1 in 1000 did not improve the action of alcohol alone. This is easy to understand, as the flavines are not rapid powerful disinfectants but slow benign germicides especially suitable for wound antisepsis. Acriflavine in alcohol has been used in hospitals as a skin disinfectant either on its own supposed merits or as a substitute for unobtainable iodine, but it is clearly no substitute; the figures even suggest that it may impede the action of the alcohol.

Again, the addition of 1% HCl did not improve 70% alcohol. Only 15 sec. was allowed in these tests, and it may be that the acid would exert an additional effect if more time were allowed. With a very different and prolonged technique Meyer and Vicher (1943) found 0·5% HCl in water a good skin disinfectant.

Chlorine, in the form of 'Chloros,' which appears to be the equivalent of a 10–12% solution of chlorine, was disappointing, since neither undiluted nor at 1 in 2 to 1 in 8 did it give satisfactory results with any regularity in the 1½ min. which was needed for drying on the skin.

'*Dettol*,' which takes 5 min. to dry when used undiluted, was also unsuccessful in about half the trials. Dilution made the results even worse. Here also some prolongation of exposure to the disinfectant would almost certainly succeed, but that point was not pursued.

The detergents, 'CTAB' ('Cetavlon') and zephyran, needed special treatment for the following reason. They have the property of high "bacteriostatic" selectivity—i.e., whereas they both prevent the growth of *Staph. aureus* in broth up to a dilution of 100,000 or more, the concentration needed for *Ps. pyocyanea* is about 1 in 200. To a smaller degree they are also selective in simple bactericidal tests on suspensions of b[illegible] in water. Thus CTAB kills *Staph. aureus* (20 [illegible] c.cm.) in 5 min. at 1 in 16,000, whereas the let[illegible] for *Ps. pyocyanea* is 1 in 4000. Zephyra[illegible] selectivity in the bactericidal test, the re[illegible] concentrations being 1 in 3000 and 1 [illegible] exceptionally strong, slow, and selective "[illegible] action on cocci vitiates the standard skin [illegible] concentrations of these substances are u[illegible] solutions 1 in 1 to 1 in 8 of zephyran a[illegible] in 80 of CTAB are applied to the skin, enoug[illegible] by the swab from the skin to the agar to i[illegible] and it is therefore impossible to say whet[illegible] on the skin have or have not been killed. [illegible] higher than those mentioned neither CTAB nor [illegible] adequately disinfects the skin.

To overcome this difficulty *Ps. pyocyanea* was us[illegible] in a series of tests, which showed that CTAB at 1 in 20 or more did not cause virtual disinfection in 1½ min. Two strains were used, because *Ps. pyocyanea* is a highly variable organism. A strain recently isolated from urine, giving smooth colonies, resisted disinfection by dilutions of 1 in 20—i.e., the strongest possible—1 in 40, and 1 in 80; and the reduction in the number of colonies recovered, compared with the control, was only slight. The result with an old stock culture which gave rough colonies was better, though even 1 in 20 did not quite cause virtual disinfection, three tested areas yielding respectively 18, 7, and 3 colonies of the skin coccus; 1 in 40 was less effective, though one area of three was disinfected (yields: 0, 28, 29 colonies); and 1 in 80 was still less effective, with 21, 43, and 200 colonies. Since 2% iodine in 70% alcohol kills this microbe on the skin in 20 sec., one must conclude that CTAB is less effective than alcoholic iodine as a rapid disinfectant.

The results with zephyran indicated that its action is rather stronger (or quicker) than that of CTAB, perhaps because it is a true solution, whereas CTAB at 1 in 20 is more of a suspension. Thus zephyran at 1 in 1 and 1 in 4 virtually disinfected in 1½ min. all of three areas previously treated with the old "rough" *Ps. pyocyanea* and all of three treated with the new "smooth" strain. Since in bactericidal tests staphylococci are more sensitive than pseudomonas to zephyran we can safely assume that 1 in 4 (and possibly 1 in 8) will rid the skin of staphylococci. We can therefore class zephyran as a rapid skin disinfectant, though less rapid

and convenient than alcoholic iodine, since it takes 1½ min. instead of 15 sec. to dry.

The only other chemical substance tried with the skin test was *potassium permanganate* at 1 in 20, which, as table I shows, was generally ineffective in 1 min. exposure.

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Disinfectant	Time of action (min.)	Tests	Virtually disinfected	Remarks (*Staph. (epidermidis) albus* used unless otherwise stated)
Chloros 100 %	1½	9	2	Dries in 1½ min.
Dettol 100 %	5	12	6	Dries in 5 min.
Pot. permanganate 5 %	1	9	2	..
	1 (+4)†	9	0	..
Ethyl alcohol 97 % ..	½	5	0	Dries in ½ min.
Ethyl alcohol 70 % ..	½	25	5	..
Ethyl alcohol 97 % ..	½ (+4½)	20	15	..
Ethyl alcohol 70 % ..	½ (+4½)	15	13	..
Acriflavine 1/1000 in 70 % alcohol	½	21	5	..
Acriflavine 1/1000 in 70 % alcohol	½ (+4½)	11	5	..
HCl 1 % in 70 % alcohol	½	25	3	..
Iodine 2 % in 70 % alcohol	½	45	45	..
Iodine 2 %*	1½	20	18	Dries in 1–1½ min.
Iodine 1 %*	1½ (+3½)	2	2	..
Iodine 0·5 %*	1½ (+3½)	2	2	..
Iodine 0·25 %* ..	1½ (+3½)	2	0	..
Zephyran 100 % ..	1½	6	6	*Ps. pyocyanea* used
Zephyran 25 % ..	1½	6	6	*Ps. pyocyanea* used
CTAB (cetavlon) 5 %	1½	4	1	..
CTAB (cetavlon) 2·5 %	1½	5	1	..

[redacted] aqueous potassium iodide.
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[redacted]d on the skin and before the swab sample was taken.

[redacted]NTS IN COLLABORATION WITH PROF. H. J. SEDDON

[redacted]he foregoing method was worked out, an
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[redacted] for preoperative skin disinfection—i.e.,
[redacted]of the natural surface flora—by the excision
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[redacted]e edges of the wound at the beginning and
[redacted] operations, which varied in length from half
[redacted] more than two hours. In the preoperative
[redacted]on of the skin the disinfectant was applied
[redacted] once on the day before the operation, the area
[redacted] then covered with sterile dressings, and again
[redacted]st before the operation.

The excised strips of skin, 2–3 cm. long and a few mm. wide, were immediately dropped into screw-capped bottles containing 10 c.cm. of sterile heart-extract peptone broth, which were incubated at 27° C for twenty-four hours. If no growth took place, incubation was continued for two more days. To exclude the possibility of "bacteriostatic" action of traces of disinfectant carried into the culture medium on the skin, strips which had not produced growth in forty-eight hours were transferred into other bottles of broth. In these, however, delayed growth did not take place any oftener than in primary cultures subjected to an equivalent total length of incubation. It may be objected, with much truth, that the term "bacteriostatic action" really means a slow bactericidal action, and that this type of control test was illusory, as the cocci, if any had been present, might have been slowly killed by the traces of disinfectant carried over into the first broth. But, since more than half of the first cultures, which might contain such traces of disinfectant, gave growths of cocci, sometimes early and profuse, the quantity of disinfectant carried over was shown in many instances to be insufficient to prevent growth.

Since, according to the accepted view (Price 1938), the skin has a resident population of bacteria, some of which live below the surface, it seemed likely that some might escape the action of disinfectant applied to the surface, and that a complete destruction of all cocci on the strips could not always be expected. And, since plating-out methods were inapplicable and a single live coccus could initiate growth in the broth, the best method of assessment seemed the statistical method—the testing of sufficient strips with every solution to find what proportion were completely or virtually disinfected.

An additional difficulty arose from the sporadic presence on the skin of spores of bacilli, which withstood the disinfectant and gave rise to growth in the broth. Every culture was therefore examined microscopically and, if necessary, by subcultivation to determine the nature of the growth; and, if it was exclusively bacillary, the skin was deemed to have been virtually disinfected, in the sense of being freed from its normal population of cocci.

A good proportion of the positive cultures, both of cocci and of rods, took more than twenty-four hours' incubation to develop, which indicated that very few bacterial cells had survived the treatment.

Results are shown in table II. The figures should be interpreted thus:

With 2% aqueous iodine (for example) 29 skin samples were taken at the beginning, and 28 at the end of operations, making a total of 57 samples. Out of every 10 of the "beginning" samples 3·8 were sterile, while 5·9, though not all sterile, showed no development of cocci in the cultures. This means that 5·9 − 3·8 = 2·1 per ten showed a growth of rods only. The elimination of cocci almost certainly involves also the elimination of vegetative rods, and this is all one could hope to achieve, spores being too resistant to be killed by any solution the skin will tolerate. The total figure for "no cocci" in the iodine section—i.e., 5·8—may well represent about the highest proportion of successes that this method could give with any feasible surface disinfectant, and the degree to which it falls short of 10 per 10—i.e., 4·2 per 10—represents the proportion in which either some deep-seated cocci escaped destruction or a few cocci were introduced as a contamination during the handling and plating-out of the materials. It is probable that the former cause was more frequent than the latter.

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Disinfectant	Iodine 2 % (aqueous)			CTAB 5 %			CTAB 1 %		
Time of excision ..	Beg.	End	Total	Beg.	End	Total	Beg.	End	Total
Number of tests	29	28	57	21	17	38	8	8	16
CULTIVATION RESULTS (PER TEN)									
No growth of any bacteria ..	3·8	4·6	4·2	3·8	2·4	3·1	1·2	0·0	0·6
No growth of cocci	5·9	5·7	5·8	3·8	2·9	3·4	2·5	2·5	2·5

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Table II shows three things: (1) that 2% aqueous iodine gave considerably better results than 5% CTAB; (2) that 5% CTAB was considerably better than 1%; and (3) that the results at the end of the operation are almost as good as those at the beginning. With iodine there is certainly no significant difference, which confirms Colebrook's (1941) view that iodine has a much more persistent action than is often supposed.

It is therefore in the comparison of different solutions rather than in the demonstration of their absolute disinfecting power that this method gave the most useful results; and to obtain more absolute information it was found necessary to develop the method described earlier in this paper.

SUMMARY

A description is given of a standardisable technique for measuring the skin-disinfecting power of chemicals, and of its application in the rapid preparation of unwashed skin for needle-puncture or surgical incision.

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To overcome this difficulty *Ps. pyocyanea* was used in a series of tests, which showed that CTAB at 1 in 20 or more did not cause virtual disinfection in 1½ min. Two strains were used, because *Ps. pyocyanea* is a highly variable organism. A strain recently isolated from urine, giving smooth colonies, resisted disinfection by dilutions of 1 in 20—i.e., the strongest possible—1 in 40, and 1 in 80; and the reduction in the number of colonies recovered, compared with the control, was only slight. The result with an old stock culture which gave rough colonies was better, though even 1 in 20 did not quite cause virtual disinfection, three tested areas yielding respectively 18, 7, and 3 colonies of the skin coccus; 1 in 40 was less effective, though one area of three was disinfected (yields: 0, 28, 29 colonies); and 1 in 80 was still less effective, with 21, 43, and 200 colonies. Since 2% iodine in 70% alcohol kills this microbe on the skin in 20 sec., one must conclude that CTAB is less effective than alcoholic iodine as a rapid disinfectant.

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Iodine 0·25 %* ..	1½ (+3½)	2	0	..
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EXPERIMENTS IN COLLABORATION WITH PROF. H. J. SEDDON

Before the foregoing method was worked out, an attempt had been made to assess the efficiency of CTAB and iodine for preoperative skin disinfection—i.e., elimination of the natural surface flora—by the excision and cultivation of small strips of previously disinfected skin from the edges of the wound at the beginning and end of the operations, which varied in length from half an hour to more than two hours. In the preoperative preparation of the skin the disinfectant was applied twice: once on the day before the operation, the area being then covered with sterile dressings, and again just before the operation.

The excised strips of skin, 2–3 cm. long and a few mm. wide, were immediately dropped into screw-capped bottles containing 10 c.cm. of sterile heart-extract peptone broth, which were incubated at 27° C for twenty-four hours. If no growth took place, incubation was continued for two more days. To exclude the possibility of "bacteriostatic" action of traces of disinfectant carried into the culture medium on the skin, strips which had not produced growth in forty-eight hours were transferred into other bottles of broth. In these, however, delayed growth did not take place any oftener than in primary cultures subjected to an equivalent total length of incubation. It may be objected, with much truth, that the term "bacteriostatic action" really means a slow bactericidal action, and that this type of control test was illusory, as the cocci, if any had been present, might have been slowly killed by the traces of disinfectant carried over into the first broth. But, since more than half of the first cultures, which might contain such traces of disinfectant, gave growths of cocci, sometimes early and profuse, the quantity of disinfectant carried over was shown in many instances to be insufficient to prevent growth.

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Virtual disinfection was achieved in 15–20 sec. with a single application of 2% iodine in 70% alcohol.

In 1½ min. zephyran was effective, but none of the other disinfectants tested were completely successful in that time.

An account is given of some earlier experiments done in collaboration with Prof. H. J. Seddon by the method of skin-strip excision, in which aqueous iodine proved superior to CTAB.

My thanks are due to Mr. E. Vincent for technical assistance, and to Prof. G. S. Wilson for advice.

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BLOOD-TRANSFUSION IN INDIAN FAMINE

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FAMINE, severe and widespread, threatens India this summer; and, though preparations to meet it are being made with all possible determination, those of us who have experienced Indian famine know what a colossal task it will be to rescue even a small proportion of its destined victims.

The starving Indian has usually never received an adequately balanced diet or been free from the debilitating effects of chronic infestations by intestinal parasites and protozoa. Most of the people live in the small villages where medical attention is very primitive. Hence, when proper medical aid is sought, the patient usually is already grossly emaciated, dehydrated, and barely conscious, and either is unable to swallow or can only swallow a few sips of water. The chronicity of the emaciation is often revealed by the ulceration of bony points through the skin. Often the spleen is enlarged (the regions most susceptible to famine are those where malaria and amœbic colitis are endemic) and despite his almost complete inertia the patient has a temperature of 102°–104° F. He almost invariably has a mucous diarrhœa with frequent small motions, sometimes blood-streaked, and vegetative forms of *E. histolytica* are found in the stools of about half the cases. These patients are profoundly anæmic, hæmoglobin values in the region of 3 g. per 100 c.cm. being common.

It is not surprising that when such people are brought long distances by rough road transport many will die within a few hours of admission to hospital.

At necropsy the gut wall is sometimes so thin that print can be read through it, and often to the naked eye does not appear to possess any mucosa at all. This is especially so with the small bowel, while the large gut is as a rule lined by shallow confluent ulcers with paper-thin mucosa between them.

Blood-transfusion is the only therapy that can influence the condition of these patients quickly enough to save their lives. The dangers of transfusion in the profoundly and chronically anæmic Indian are perhaps even greater than in chronically anæmic Europeans, since the Indian's vital reserves are drained by a multiplicity of simultaneously acting factors. However, the urgency of the condition and the failure of many Indian anæmias to respond to iron and liver therapy have led workers in the East to attempt blood-transfusion in various ways.

The usual method has been multiple small intravenous injections of whole blood, but this leaves much to be desired. In dealing with a similar problem among troops, I used a method of administering blood at a rate many times slower than had previously been used, and I found that, provided the rate was sufficiently slow, blood could be administered without danger. This method was later used in cases of famine among Bengali civilians, again without untoward effects, and permitting large volumes of blood to be administered.

My guiding principles were modified from those of Marriott and Kekwick,[1] who laid down the following rules for blood-transfusion in the relief of profound anæmia:

(1) Never exceed a rate of 1 c.cm., per lb. of body-weight per hour.
(2) If the hæmoglobin value is less than 25%, or if there is cachexia or cardiac or respiratory disease, never exceed 0·5 c.cm. per lb. of body-weight per hour.
(3) Maintain the determined rate steadily and never accelerate for short periods.
(4) Watch carefully for heart-failure, dyspnœa, râles, or cough; if such signs appear, stop the transfusion.

These principles do not provide for the type of patient, often seen in an Indian famine, who has concurrently a hæmoglobin of 25% or often much less, cachexia, an active infection, and a chronic infestation or multiple infestations. For such patients I regard the optimal transfusion-rate as lower than 0·5 c.cm. per lb. of body-weight per hour, and used as a usual rate 0·25 c.cm. The difficulty was to find an apparatus capable of delivering blood at this rate. Young adult men in a famine-stricken Indian community commonly have a body-weight of about 5 st.; hence the drip must be extremely slow.

> A man weighing 5 st. 10 lb. (80 lb.), with 3·2 g. of Hb per 100 c.cm., continuous fever of about 100° F, and diarrhœa for many months, received without reaction five bottles of blood (more than 2 litres). The first was given at the rate of 0·25 c.cm. per lb. of body-weight per hour—i.e., he received the blood at the rate of six drops a minute.

I do not know of any apparatus that can deliver blood regularly and reliably for many hours at six drops a minute. Intravenous needles or cannulæ eventually become blocked when the flow of citrated blood through them is very slow. I therefore tried diluting the blood with isotonic saline so that I could give a mixture containing the right amount of blood per minute. I tried diluting whole blood and diluting red-cell concentrates. This was an improvement on previous methods, but ultimately I adopted a method in which the dilution factor was under constant control, so that it could be varied with the patient's clinical condition, and the blood-cells were in contact with the diluting medium for a minimal period.

The principle of this method was that, provided the saline-diluting medium was administered slowly enough for the body to eliminate it as fast as it was given, the rate of administration of retained fluid was simply the rate of administration of the blood in the mixture, which could be made slow enough for acceptance even by these grossly anæmic and debilitated cases.

In the coming famine any method adopted must employ apparatus already existing in quantity.

TRANSFUSION TECHNIQUE

Apparatus.—An ordinary Y-piece set with blood on one side and saline on the other, with one drop-counter below the Y-piece, and an adjustable tube clip between each bottle and the Y-piece.

Method.—The drip began with saline at 20 drops a minute (a very slow rate but one easily achieved with ordinary equipment). This was continued for ten minutes to permit any venous spasm to relax, and the rate was then readjusted to 20 drops a minute of saline, if necessary. If after another five minutes the rate was unchanged, the blood tube was opened so that the rate of combined flow became 26 or 24 a minute, to give 6 or 4 drops of blood a minute, or whatever rate was desired. Little adjustment was thereafter required, but in any

1. Marriott, H. L., Kekwick, A. *Brit. med. J.* 1940, i, 1043.

event adjustment is very easy. I found that from ordinary glass drop-counters blood, or isotonic saline, or isotonic glucose-saline, or any mixtures of them, fell at the rate of 18–20 drops per c.cm. at room temperatures. We adopted the policy of regarding 18 drops as 1 c.cm.

It took several days for a patient to receive an adequate transfusion, and therefore the comfort of the method was important, as was the avoidance of thrombosis in the recipient vein. Accordingly the needle or cannula was introduced into a vein in the middle of the forearm on the radial border and not into the antecubital region. No splint was used, and a fair range of movement was permitted in the recipient limb, the wrist being very loosely hobbled to the edge of the bed. It is of especial importance so to place the needle that the patient's forearm can lie comfortably in pronation. For a long infusion the internal saphenous vein was inferior to the radial antebrachial vein, as the former was far more likely to become painful on the third day.

It became customary to give blood for two days and then, after a day's rest, for another two days into another vein, and so on, with needles and not cannulæ. This not only gave the patient's system an additional opportunity to adapt itself to the receipt of blood but also reduced the incidence of phlebitis. Indian famine strikes in the hot weather as a rule, when skins are sweaty and flies abound, and in such circumstances phlebitis is likely to develop, unless one is very careful.

Should a nursing sister become concerned about the patient and wonder whether he is suffering from excessive or unsuitable blood administration, she simply closes the clip on the blood tube and then seeks the doctor, who can as easily switch it on again if he thinks fit. The saline continues harmlessly to drip at 20 drops a minute. This becomes very important in an overloaded hospital during the night, when a doctor may not be able to come immediately he is summoned. It is very distressing to find a transfusion unnecessarily stopped and the cannula withdrawn; and tragic to find it unwisely continued.

It is good practice to maintain a fluid-balance chart in these cases during the transfusion, and, when circumstances permit, for a few days beforehand. It should be carried out carefully and a reasonable allowance made for loss through the skin, the respiratory system, and the bowel.

OBSERVATIONS

In the blood-saline mixture the red cells were of normal appearance and there was no rouleaux formation. The mixture had a sedimentation-rate identical with that of the citrated blood, and these findings were unchanged when the same samples were re-examined after being kept overnight in the refrigerator. The improvement observed clinically and hæmatologically indicated that the cells administered were effective erythrocytes. This is a tribute to the accuracy of preparation of the isotonic saline which came from Army medical stores.

It is important to realise the great difference between the values of fresh and stored blood in this work. Fresh blood should, if at all possible, always be used. Stored blood has its value, but it can be relied on only for about three days. After that time, though still of value in the treatment of acute hæmorrhage, it is better not used in anæmia. Blood a week old sometimes seems to produce a deterioration in the patient's condition. For this reason red-cell concentrates were dropped.

Reaction to Slightly Excessive Rate.—Some patients receive a drip transfusion with equanimity, whereas others exhibit anxiety and are ill at ease. At first I assumed that this variation merely revealed the patient's temperament and education, but in time I learnt that restlessness and anxiety can be an indication of a slightly excessive rate of blood-transfusion and can be eliminated by slowing the flow from, say, 10 drops a minute to 6. Though no other sign of excessive rate may be observed, slowing it usually has an almost immediate effect, so that the patient once more takes an interest in his meals and sleep becomes possible.

Type of Case Treated.—The very slow transfusion was adopted primarily as a "last hope" treatment for the almost moribund, but it was so reliable that I came to use it in all starvation cases with a hæmoglobin value of less than 50%.

Stage 1 in the treatment of the severe cases is that in which immediate danger of death is combated. Stage 2 is that in which nourishment has to be forced on a patient with almost complete anorexia. It is in this stage that the drip feeding by Ryle tube, as used by Lieut.-Colonel G. Ransome, R.A.M.C.,[2] is of such value. Stage 3 is that in which the patient who has recovered a little appetite is treated principally by the dietetic regime of the sister-in-charge, who restores him gradually to normality.

Transfusion finds its value in stages 1 and 2. During a famine many patients when first seen are in stage 3, but still the numbers in stages 1 and 2 are so great that giving blood is a whole-time job for a medical officer. Therefore this method can only succeed if properly organised as a special department in the hospital. If it is used as an occasional method by a doctor busy with other things, it is unlikely to be properly managed.

Contra-indications.—The contra-indications are simply those to an intravenous isotonic saline drip at 20 drops a minute—namely, fluid retention and pulmonary œdema. I have often given this treatment to people with râles in their chests or œdema in the legs, and even with an apex-beat to the left of the nipple line. The danger being one of overloading with fluid, there is no danger if the renal elimination of fluid is efficient, since it can then cope readily with much greater rates of administration than used in this treatment. In a word the only real contra-indication is inability to eliminate fluid and salt.

When there was any clinical indication, and when life was not in immediate danger, the patient was put for three days on a carefully kept fluid-balance chart, urinary chlorides being estimated. I did not have any occasion to withhold the treatment and very few occasions even to delay it. Nearly all these patients can eliminate fluid and salt efficiently.

Results.—After tragic experience of treatment without the use of transfusion and disappointing experience with other methods, I found in this routine a safe, effective, and reliable form of treatment. There were no cases of circulatory overloading, and many remarkable recoveries from an almost moribund condition. Used in the patients who were very anæmic but whose lives were not in immediate danger, the treatment was my most effective therapeutic instrument. Supplies of blood were not always easily secured, especially fresh blood, but the average number of 500 c.cm. bottles of citrated blood given per patient was four, and some had as many as twenty. I relied on blood to raise the hæmoglobin value above 60% and then usually stopped it, partly because of the difficulty in obtaining supplies but also because it was a satisfactory routine.

A striking feature was that even in most serious cases deterioration was usually arrested when the transfusion began, however slowly.

The total number of severely anæmic patients treated by transfusion given in this manner, after the final routine had been established, was 109 with hæmoglobin values below 30%, most of them below 25%. Of these 8 died: 1 of an incompatible transfusion due to an error of grouping technique; 4, who were grossly emaciated and moribund, within 48 hours of admission without even temporary improvement; and 3 during

2. Ransome, G., Gupta, L. M., Paterson, J. C. S. *Ibid*, 1944, ii, 594.

the fourth week of treatment. Necropsy showed the typical thinning of the gut wall, with extensive destruction of the mucosa of the colon and severe secondary infection of the colon wall.

The great majority of the remainder were not followed beyond the point at which they became fit to travel. They then had hæmoglobin values of 60% or more, had lost their fever and diarrhœa, recovered an appetite for food, and put on a good deal of weight. Areas of skin ulceration were either healed, if small, or granulating. Patients who had been seriously ill were amnesic for that period.

It is to be hoped that, when a similar clinical task is next undertaken in an Indian famine, adequate laboratory facilities will be at hand to enable the maximal information to be obtained from the opportunity.

SUMMARY

Indian famine is a special problem, because the patients are usually already the victims of several debilitating pathological processes. They are often profoundly anæmic and do not respond well or quickly to liver and iron therapy.

Mortality is very high among these very anæmic patients, unless something can be done quickly to improve the condition of their blood.

Blood-transfusion, notoriously risky in anæmic people is especially so among these debilitated famine victims. It does, however, offer the only method of saving many whose condition cannot otherwise be controlled.

It follows that a safe technique for the administration of blood was required, and a technique was adopted which was both effective and safe. It employs ordinary apparatus, is only a little more complex than ordinary methods of transfusion, and is very easy to manage when assembled.

Details in the practical management are described, as they are essential to success.

Grateful acknowledgment is made to Dr. J. M. Smellie, late consulting physician to Eastern Command, India, for his interest and support, and to Drs. E. A. Wood and T. N. S. Kurup for their collaboration in the use of the method.

SERUM PHOSPHATASE IN LATHYRISM

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ALTHOUGH lathyrism is an extremely disabling disease and is fairly common in certain parts of the world, particularly India, its ætiology, apart from its association with a diet restricted to vetch-peas (*dal*), is still unknown. Several theories have been advanced—Acton (1922) cited by Young (1927), Anderson et al. (1925), Mellanby (1930), Geiger et al. (1933), Shah (1939)—but all of them lack a convincing experimental background. According to Jiménez Díaz et al. (1943) the vetches contain a toxic substance which antagonises some thermostable water-soluble substance, distinct from the known vitamins, which is present in certain foodstuffs. Lathyrism, they maintain, is due to massive doses of lathyrus peas and lack, particularly, of foodstuffs of animal origin which furnish the protective element.

In view of the intimate relationship between vitamin B_1 and the nervous system, it is surprising that the state of vitamin-B_1 nutrition in lathyrism cases has not been investigated so far, as lathyrism is the result of the degeneration of part of the nervous system. We have made a comprehensive survey of the state of vitamin-B_1 nutrition of lathyrism patients. It was soon evident that the diets of some of the patients were balanced and the vitamin-B_1 contents of their blood and urine were of an order which might be regarded as lying within normal limits. It was thought that, though there might not be an apparent vitamin-B_1 deficiency, there might be a physiological one due to an unknown factor. We decided to determine the serum-phosphatase levels of lathyrism patients.

The serum phosphatase was determined by the method of Bodansky (1937). No magnesium ions were added, as the native phosphatase value was of importance and no activation was desirable. The values for normal subjects and lathyrism cases are given in the accompanying table, which shows that serum phosphatase in lathyrism is consistently and considerably higher than that in normal persons. Out of the 10 cases investigated in not a single case does the serum phosphatase lie even on the borderline, and the minimal value is 228% higher than the maximum value in normal persons. The result is statistically significant. The possibility of such values occurring by chance is less than 1 in 370.

SERUM PHOSPHATASE IN NORMAL SUBJECTS AND LATHYRISM CASES (ALL ARE MALES)

Serial no.	Normal subjects		Lathyrism cases	
	Age (years)	Phosphatase (units)	Age (years)	Phosphatase (units)
1	22	2·3	20	38·0
2	50	2·7	18	53·5
3	24	1·0	40	56·5
4	40	5·7	35	42·5
5	30	2·4	20	35·6
6	20	2·2	24	33·0
7	35	2·6	21	36·0
8	22	2·7	16	33·5
9	20	3·4	45	18·7
10	27	0·8	30	39·6
11	35	1·1	..	..
12	23	2·7	..	..
Mean	..	2·38	..	38·7
Median	26	..	23	..

It seems to us possible that the greatly increased alkaline phosphatase which we have demonstrated in the serum in lathyrism may possibly destroy the circulating cocarboxylase. If this is so, the patient may be chemically saturated with aneurine but still functionally deficient in vitamin B_1. As a natural sequence to this state the nervous system may possibly degenerate.

We suggest that the high serum phosphatase and a consequent possible cocarboxylase deficiency in lathyrism are related to the ætiology of the disease. We do not attempt to explain how or why the serum phosphate rises in lathyrism. It is also possible that the high serum phosphatase is the effect, and not the cause, of lathyrism. It may be mentioned here that the inorganic-phosphate content of serum in lathyrism is unusually high. Usually the serum-phosphatase level is a measure of the severity of the disease.

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IN the *Times* of April 11 it was announced that Mr. John Hunter and Prof. Bryan McSwiney have arrived at Kingston, Jamaica, as representatives of the University of London to consider plans for setting up a medical school as part of the proposed University of the West Indies. The new university would be associated with the University of London, and several of the West Indian governments have already accepted in principle the proposals for its establishment in Jamaica.

RAPID DEATH FOLLOWING INJECTION OF ANTITETANIC SERUM

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ON Nov. 19, 1945, a strong healthy well-built boy, aged 15, a pupil at an agricultural training-school, crushed the last joint of his left index finger in a plough. He received immediate first-aid and was driven to the local hospital. A doctor was summoned by telephone and attended, but ordered 3000 units of antitetanic serum to be given at once before his arrival. This was injected into the pectoral muscle just below the right clavicle. A small quantity was injected at first; and then, as there appeared to be no reaction, the rest of the dose was given without removing the needle.

Almost immediately the boy complained of feeling ill, in ten minutes he was vomiting, and very soon collapsed. He had increasing respiratory difficulty, with cyanosis, and this deepened till his death, which took place an hour after the onset of symptoms. On the initial collapse an injection of 'Coramine' was given, followed by 10 minims of adrenaline intramuscularly. Artificial respiration was maintained with oxygen, and when the heart stopped, 10 minims of adrenaline was injected into the heart. Later the abdomen was opened and the heart massaged, after a further 10 minims of adrenaline had been injected into it.

Necropsy Findings.—Organs healthy. Face, upper chest, and arms cyanosed; and deep and widespread postmortem staining, rising high on each flank. Scalp œdematous; skull dark red from deep cyanotic congestion of diploë. Large surface veins of brain full, and small vessels in pia mater and on section of brain congested. Cortex a pale mulberry colour.

On mediastinum, surface of pericardium, surface of heart, costal pleura, and thymus were innumerable hæmorrhages, from mere pin-points to 5 mm. across. Lungs (15 oz. each) aerated, not very deeply congested or œdematous, but posteriorly lower lobes and much of upper lobes covered with almost continuous sheet of subpleural hæmorrhage. Intense cyanotic congestion and œdema of pharynx and glottis, which must have materially contributed to death from asphyxia.

Great veins of neck and right chambers of heart distended with dark fluid blood, and large subendocardial hæmorrhages on septum.

Mucosa of stomach and intestines only slightly congested and pale pink, but mucosa of duodenum more deeply congested, with some submucous hæmorrhages.

Liver (44 oz.) and kidneys not deeply congested; spleen (4 oz.) pale.

I failed to find the site of the injection till the doctor pointed to an almost imperceptible mark below the right clavicle. There was no urticaria round this minute puncture and no œdema along the track of the needle, which had been directed upwards, nor was any seen in the muscle at the presumed end of the track. From these observations and the rapid onset of symptoms it is probable that the point of the needle had entered a vein, into which the injection was made.

My thanks are due to Mr. Wills Taylor, H.M. coroner for West Surrey, for permission to publish this case.

Medical Societies

TUBERCULOSIS ASSOCIATION

AT a meeting in London on March 15, with Dr. NORMAN TATTERSALL, the president, in the chair, a discussion on the

Changing Chest Clinic

was opened by Dr. PHILIP ELLMAN. The hospital surveys, he said, had revealed glaring deficiencies in the tuberculosis service in some parts of the country, and these could best be remedied by a wider conception of the service's functions and by greater integration with other branches of medicine, especially diseases of the chest. Recent figures showed that only 18% of the patients attending his clinic were tuberculous; the term "chest clinic" was more apt than "tuberculosis dispensary." Preferably the clinic should be a general hospital department while remaining the pivot of the tuberculosis service; it should in fact be the outpatient department of the whole chest service, of which the chest unit and the sanatorium constituted the inpatient departments. Such an arrangement would ensure suitable disposal for patients with non-tuberculous chest disease, and would facilitate special treatment for tuberculous subjects with superadded lesions, such as diabetes. A section of beds in the chest unit and sanatorium would be allocated to thoracic surgery. Mass radiography would be closely linked to the clinics. The social service department, responsible for the functions of almoner and health visitor, would be the link between the service and the patient's home, and would have preventive and restorative duties. The physician in charge of the department would have to be fundamentally a general physician, but with more specialist training than was now demanded by the Ministry of Health, and with interest in social and preventive medicine.

Dr. F. RIDEHALGH recalled that the late R. C. Wingfield, himself a sanatorium physician, always emphasised that only the tuberculosis officer saw the whole picture of the tuberculosis problem. To the medical officer of health the disease was a study in epidemiology; the consulting physician concentrated on the clinical problem; but the tuberculosis officer, though conversant with the epidemiological and clinical aspects, was above all interested in his patients. Tuberculosis had two outstanding characteristics. First, it constituted a vicious circle—the disease produced poverty, and poverty predisposed to the disease. Secondly, the treatment was "not medicine but a mode of life." Thus the everyday problems of the tuberculous family became the everyday problems of the tuberculosis officer, and the unique doctor-patient relationship thus evolved was the cement between the bricks of a good service. The tuberculosis officer could give the lie direct to those who argued that, under State control, medicine must lose its soul. He was clinician, administrator, epidemiologist, and economist. It seemed logical that he, with his broad outlook, should command the battle against tuberculosis. To do this he must preserve his perspective and his identity. He was, or should be, a chest diagnostician of the first order; the argument that he should treat non-tuberculous chest conditions was attractive, but there was real danger that by concentrating on clinical aspects he might lose his perspective and neglect his main duty which was the eradication of all forms of tuberculosis. He should emphatically not become simply the head of a chest clinic; the constant help of other specialists would always be needed, and the tuberculosis officer should continue to handle all forms of the disease. The assimilation of tuberculosis into the general hospital, though it had obvious advantages, also carried the risk that the service might lose its autonomy, which should at all costs be retained.

Dr. BRIAN THOMPSON drew attention to the lack of continuity in treatment; when the patient was admitted to a sanatorium, neither the physician there nor the tuberculosis officer followed the condition throughout its course.

Dr. E. K. PRITCHARD considered that the service envisaged by Dr. Ellman was too comprehensive; non-pulmonary tuberculosis was usually seen by tuberculosis officers only after it had been diagnosed.

Dr. C. K. CULLEN said that the tuberculosis service interlocked with all the other health services of the country. Further association with hospitals would ease diagnosis, but would not help in the epidemiological field.

Dr. A. F. BLAGG left £105,169, the residue of which, subject to a life interest, is to pass to University College Hospital Medical School.

Reviews of Books

A Manual of Tuberculosis

(3rd ed.) E. ASHWORTH UNDERWOOD, M.A., B.SC., M.D., D.P.M., M.O.H. and chief administrative T.O. for West Ham. Edinburgh: E. & S. Livingstone. Pp. 512. 15*s*.

Dr. Underwood's book has been extensively revised with a view to emphasising three unities—the unity of this pleomorphic disease; the unity of team spirit needed between patient, physician, nurse, tuberculosis officer, and local authority for the treatment of the disease and the prevention of its spread; and the unity of the patient, demanding the recognition and treatment of the patient as a whole and not merely as the accidental possessor of diseased organs to be attacked. It is an ambitious project, and the work is not without its shortcomings. But there is far more in it to be praised highly than there is to be found wanting. Much of the material has never been expounded hitherto in any English textbook; and many topics, mentioned only perfunctorily by most authors, here receive detailed and careful consideration. The chapters on the principles of sanatorium treatment, showing how these principles should be put into effect in the management of the patient before, during, and after his residence in a sanatorium, could scarcely be bettered. A chapter on mental aspects is the most lucid that has appeared so far in any textbook. The last five deal with the work of the tuberculosis dispensary, administrative measures, epidemiology, and social and environmental factors (including the effects of war on the disease) and succeed in endowing these subjects with a living interest.

The faults are rather errors of omission and imbalance than of inaccuracy or heterodoxy. A highly detailed account is given of the induction of an artificial pneumothorax; but the fundamental principles are not discussed, nor is there any word about the possibility that an A.P. should ever be abandoned as ineffective and dangerous. Pneumoperitoneum is dismissed in 7 lines, whereas 4½ pages are devoted to the preparation and use of plaster bandages. The teleological explanation that pleural effusion arises as a "pain preventer" between inflamed sensitive surfaces does not accord with the fact that separation of the inflamed surfaces by air, while relieving the pain, does not prevent the effusion, nor with the fact that pleural effusions occur far more commonly in A.P. cases than in others. Surely, also, Dr. Underwood is wrong to maintain (by implication) that more air is forced through a bronchopleural fistula into the pleural cavity during *expiration*, when the intrapleural negative pressure is lower than in inspiration?

A glossary of technical terms is appended for the benefit of nurses and lay workers responsible for the administration of tuberculosis schemes.

Textbook of Public Health

(11th ed.) W. M. FRAZER, O.B.E., M.D., M.O.H. for Liverpool; C. O. STALLYBRASS, M.D., deputy M.O.H. for Liverpool. Edinburgh: E. & S. Livingstone. Pp. 571. 25*s*.

Preventive Medicine

MARK F. BOYD, M.D., M.S., field staff member, International Health Division, Rockefeller Foundation. Philadelphia and London: W. B. Saunders. Pp. 588. 27*s*. 6*d*.

Two new editions of well-known textbooks, much alike in size and price, display different aspects of the same subject.

"Hope and Stallybrass" has long been a favourite with medical graduates seeking special health diplomas and degrees. This 11th edition, now called "Frazer and Stallybrass," keeps the general scheme but has been largely rewritten and brought up to date. "The work covers the ground both for the Certificate and the Diploma in Public Health under the General Medical Council's new rules." This it does admirably, assuming that the student has a good knowledge of the strictly medical part of preventive medicine. It is less suitable as a guide to practice: thus it gives much more space to building construction than to food-poisoning, which is dismissed in 1½ pages. The notes on chemotherapy and chemoprophylaxis are perhaps too brief to be useful, and the best chapters are those devoted to sanitation and administration. Bearing in mind its special object, the book is well balanced and convenient; and it has a good index.

Boyd's *Preventive Medicine* is American and written for doctors undertaking health work. As each of the States in the Union has its own laws and methods of administration and practice, no textbook can apply generally to the United States on these matters. Boyd therefore gives most of his space to the more strictly medical part of preventive medicine, which is of universal application. Particularly good are the chapters on normal food requirements and diseases due to dietary deficiencies. The section on diseases due to micro-organisms, which deals with such matters as water-supply and milk control, takes up nearly two-thirds of the volume. Though this work would not serve as an alternative to "Frazer and Stallybrass" for British students, the two together make a fine compendium of modern public-health practice—except that neither makes any mention of geriatrics, the prevention of chronic diseases apart from infections, or minor sicknesses.

Modern Anæsthetic Practice

(2nd ed.) Editors: the late Sir HUMPHRY ROLLESTON, Bt., M.D., F.R.C.P.; ALAN MONCRIEFF, M.D., F.R.C.P. London: Eyre and Spottiswoode. Pp. 150. 12*s*. 6*d*.

THE 2nd edition of this handbook for general practitioners has been completely revised and in part rewritten. As in the previous edition the reader is taken over the clinical field of anæsthesia by familiar paths. Each chapter is written by a different author, who covers his ground adequately for the general practitioner. Here and there items of doubtful value to the G.P., such as spinal analgesia for children and local analgesia in dental surgery, are included. The book can be recommended to the general practitioner or the occasional anæsthetist, who will find in it mature advice concerning safe and efficient anæsthesia.

L'acrodynie infantile

MAURICE PÉHU, correspondant de l'Académie de Médecine, médecin honoraire des Hôpitaux de Lyon; JEAN BOUCOMONT, professeur agrégé à la faculté de médecine de Montpellier. Paris: Masson et Cie. Pp. 98. Fr. 60.

THIS short monograph reviews most of the present knowledge of pink disease. Although the authors have previously published papers on the subject, it cannot be said that this particular work sheds any new light on ætiology or treatment. Admittedly they throw out the suggestion that the disease might be a human form of canine distemper, but they sum it up in the phrase "Pure et timide hypothèse, dirons nous." The same might well be said of the other theories of ætiology which they discuss, though the degree of timidity is variable. A selected bibliography is appended, which would be more useful if it included references to all the works mentioned in the text.

American Association for the Advancement of Science

Research Conference on Cancer. Editor: F. R. MOULTON. Washington, D.C.: The Association. Pp. 333.

PAPERS and discussions contributed to the 1944 conference of the A.A.A.S. are assembled in this volume. Most, but not all, of the active workers in experimental cancer research gave both summaries of published work and their results up to date, or took part in the discussions, which are fully recorded, and show a welcome freshness, frankness, and belligerency. Of the mass of detailed observations reported about half were concerned with biochemistry, including studies of enzymes in malignant and non-malignant cells, diet in relation to experimental tumour-production, and attempts at chemotherapy; about a third dealt with the virus approach, and the remainder with chemical carcinogenesis. These proportions reflect the current trend of most of the work in the United States, where the problem of cancer is coming to be regarded as a problem of growth in general rather than a special inquiry into the stimulus for a peculiar type of growth. This departure from the classical approach will be watched with interest—hopeful or sceptical according to bias.

For the research-worker enslaved in the minutiæ of his particular field, and for the newcomer to cancer research, this volume is invaluable, filling a need which the informal biennial conferences of the British Empire Cancer Campaign used to meet before the late war.

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* *Investigation and Results of Treatment of 1,000 cases of vaginal discharge. B.M.J., 1, 509, 1945 (April 14th).*

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1. *Brit. Med. J.*, 1942, 2, 77. 2. *J. Nutrit.*, 1941, 22, 515. *Canad. Med. Assoc. J.*, 1942, 46, 1 and 6. 3. *Orr, Food, Health and Income, Macmillan*, 1936.

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THE LANCET

LONDON: SATURDAY, MAY 11, 1946

Consequences

IT was a week of famous victories. In the House of Commons the Government carried the second reading of the National Health Service Bill in a debate which showed that parliamentary opposition to it will not be pushed to extremes. At Tavistock Square the council of the British Medical Association secured, from the representatives of the majority of doctors in each division, remarkable unanimity in favour of amendments which, taken together, would make the Bill unworkable. Happily the MINISTER OF HEALTH showed himself conciliatory, while the Special Representative Meeting refrained from outright condemnation of his proposals as a whole. So we may still hope for agreement when the possibilities and impossibilities of amendment have been explored in detail and when the profession has come to understand that in its main features the scheme before them is a social necessity rather than a piece of party legislation.

The B.M.A. discussions illustrated once again (as Dr. H. B. MORGAN put it) the doctor's habit of looking at things through the microscope. Under a wider view the reorganisation now being attempted might be seen as a direct consequence of what happened in the economic depression of the early 'thirties. At that time, it will be remembered, millions of people all over the world, and not least in this country, spent months or years out of work, in penury and degeneration, because it was not considered profitable to employ them. Never perhaps in history had there been so many tasks demanding attention—the demolition of slums, the building of houses, schools, and hospitals, the improvement of roads and communications, the revival of the countryside, and the fuller education of both adolescents and adults. But our rulers, until they embarked on rearmament, deemed it uneconomic to spend large sums on employing the unemployed to the public advantage. The damage thus done to so many people kept on the dole because it did not "pay" to give them work was remembered in the relatively prosperous years of war, when in every barrack-room and every firewatchers' post our fellow-citizens slowly made up their mind that never again should a Government get away with the excuse that work is not available. Having observed the effects, they concluded that it is unprofitable to the nation to let its members go undernourished rather than employ their labour—or to let them remain ill rather than give them the best that modern medicine can offer. And most of those who discussed these things, in their new-found fraternity, felt not only that in time of scarcity the basic needs of food, shelter, and medical care must be met first, but also that any measures of social security provided by the community to preserve health and strength and hope ought to cover everybody alike. They wanted to continue into peace the sense of unity developed in war. When therefore Sir WILLIAM BEVERIDGE proposed that his scheme should apply to every single citizen he met a deep-seated need for an expression of solidarity. And when some of the representatives of medicine asked for exclusion of the wealthier 10% of the population they misread the spirit of the hour.

That part of the controversy is over. The 100% issue is settled, and it is agreed that so far as resources allow, everybody is to have whatever medical attention he requires, without payment apart from his contributions to insurance, rates, and taxes. The new Bill is a medical Magna Carta, declaring, so far as the service is concerned, that "to no-one will we sell, deny, or delay" the benefits of medicine; and once this object is stated much of the rest follows inevitably. If medical care is to be had free of charge by all who need it, somebody must be made responsible for seeing that in every village, town, and city it is readily obtainable by the inhabitants. The main responsibility for this might be placed (1) on an autonomous National Medical Corporation, (2) on the local authorities, or (3) on the central Government. Several years' exhaustive discussion has shown that the third of these solutions is alone practicable, but opinion still differs on the powers the central Government will need if it is to achieve the rapid rationalisation of hospital services which the recent surveys have shown to be necessary. Under the so-called Willink plan, which still has advocates, all hospitals were to be left in their present ownership, and the Ministry of Health was to improve and coördinate them through the power of its purse, on the advice of regional and area planning bodies without administrative functions. There can be no doubt that Mr. BEVAN'S decision (contrary to the policy of the Labour Party) to transfer ownership of all hospitals to the Crown will make it far easier to raise the standards of backward institutions and assign to each hospital its proper place in a regional scheme. His Bill, moreover, reintroduces the idea of administration by corporations composed of people chosen for their special suitability; for in each region a corporate body, the regional board, is to control the hospitals. Provided their constitution is sound, such boards should be well qualified to bear the responsibility for ensuring a satisfactory hospital service. The Minister accepts responsibility, but delegates it immediately to the sort of body the medical profession has often said it wanted.

Who then is to administer the rest of the medical services? Here again the only choice is between corporations, local authorities, and central Government; and here again the Bill is shaped by the facts of the situation. Greater neatness and better coördination could no doubt be attained by putting all the remedial services (hospitals, clinics, and general practice) under the care of the regional board; but this might easily overtax the strength of what is after all a new and untried institution already open to criticism from constitutional purists. "The Government are taking a very substantial risk in proposing this form of organisation even for the hospitals, which must be regionalised. To extend it to all other medical services would be politically impracticable, even if it were desirable on other grounds."[1] If this is conceded, there is no alternative but to leave to local authorities many of the medical

1. From an informative commentary on the Bill published by the *Times* on April 29 and 30.

and ancillary duties they now perform, but the Bill concentrates these activities by allotting them to some 145 "local health authorities"—i.e., counties and county boroughs. As general practitioners, for sufficient reasons, have no wish to make their contract with either the local authorities or the Ministry of Health, the personal health service of each locality is to be entrusted to what is virtually a local corporation, the local executive council, half composed of doctors, dentists, and pharmacists. The complexity of these arrangements is itself evidence that they are designed functionally rather than politically. Once we admit that the citizen is entitled to anything as a right, we cannot escape having machinery to see that he gets it. The remarkable feature of the machinery planned for the National Health Service by this Labour Administration is that it makes so much use of the specially appointed corporation detached both from the Civil Service and from local government.

The inevitability of the changes proposed for general practice is more easily challenged. The Government, and many members of the profession, do not like the system by which young men and women have to buy their entry into practice, and they think that in a national service the list of patients who have chosen a particular doctor cannot decently be regarded as a form of property to be bought and sold. But the main ground on which abolition of the sale of practices has been advocated both by the Coalition and by the present Government is that it is incompatible with redistribution of medical resources according to need. The present tendency, as an American has put it, is for "doctors to go where folks have dough," and in order to discharge their obligations the Government seek the right to exclude new entries to areas that may be declared "over-doctored." Speakers in the debates have argued that distribution is in fact already satisfactory; or will become satisfactory when capitation fees are paid for the whole population; or could be made satisfactory by offering amenities or higher remuneration for practice in unpopular areas. If that is so, the proposed "negative direction" will seldom have to be invoked. If, however, private practice is still to be allowed to those in the service, any Government which guarantees to provide medical care wherever needed will naturally want power to prevent concentration of talent in wealthy areas—even if it only holds this power in reserve. If it thus claims the right to interfere with the process by which vacancies are now filled, by sale and purchase, it is bound in equity to compensate doctors who lose their capital when the goodwill of practices is made unsaleable. And if it prevents the new entrant from buying a footing in general practice, it must in some way support him till he has gained enough patients to support himself out of capitation fees.

The so-called (and miscalled) power of direction, the sale of practices, and the basic salary are interlocking problems: if the sale of practices is prohibited, some alternative method of filling vacancies is required; if over-doctored areas are to be closed to new entrants, the sale of practices will be prevented; and in either of these events a case can be made out for a basic salary. Nevertheless this case cannot be said to be overwhelming, and the MINISTER might do well to consider whether some other device would gain the same end. He and the B.M.A. agree that the profession is not "ripe" for a salaried service, and he intends that practitioners should depend mainly on capitation fees. A great deal of well-founded opposition would cease if he found himself able to omit salaries entirely from the remuneration of practitioners, meeting the needs of new entrants by crediting them with a minimum number of capitation fees during their first year or two of service. Compared with a basic salary, capitation fees are less easily varied in accordance with conditions of practice and seniority—a topic on which the Spens Committee is no doubt reporting. But they have no political flavour, and they are certainly more acceptable to the profession, in its present unripe state.

Ownership of the goodwill of a practice confers a degree of independence. For this the compensation required is not financial but administrative: each doctor must have the security of knowing that he can make himself heard, that his position will be respected, and that in professional matters he will be treated professionally. The amount the Bill leaves to be decided by regulations by the MINISTER has caused legitimate uneasiness because regulations can be altered when Ministers change. The more, then, the status and terms of service of the doctor are defined in the Act, the more confidently he will work under it. Modification should be possible in this direction, and we may also look for reconsideration of various other matters, including the penal provisions concerning sale of goodwill, partnerships, assistantships, the functions of the Medical Practices Committee, and the powers of local hospital management committees. In the coming weeks of discussion, in committee and outside it, the MINISTER must show himself ready to consider all reasonable objections, remembering that even OLIVER CROMWELL held that "what we . . . gain in a free way is better than thrice so much in a forced way, and will be more truly ours and our posterity's." On their side the representatives of the profession, in visiting Whitehall, should spare a thought perhaps for CHARLES I.

Homologous Serum Hepatitis

SINCE serum hepatitis was first reported in Great Britain [1] in 1937, the main questions have been: Is the disease caused by a living or dead agent; and if the former, is it related to infective hepatitis? Attempts to transmit the disease experimentally to animals were unsuccessful and no advance in knowledge was made for several years. Interest was revived in 1942 by the serious outbreaks of jaundice in Brazil [2] and among American troops [3] who had received certain batches of yellow-fever vaccine containing human serum. Hepatitis was also reported in transfused persons and in a group of soldiers at a training centre in Britain who received a pool of mumps convalescent plasma from a small number of supposedly healthy donors.[4] There was now no doubt that serum hepatitis was a distinct entity, and

1. MacNalty, A. S. *Rep. med. Offr Minist. Hlth Lond.* 1937. Propert, S. A. *Brit. med. J.* 1938, ii, 677. Findlay, G. M., MacCallum, F. O. *Trans. R. Soc. trop. Med. Hyg.* 1937, **31**, 297.
2. Fox, J. P., Manso, C., Penna, H. A., Para, M. *Amer. J. Hyg.* 1942, **36**, 68.
3. Sawyer, W. A., Meyer, K. F., Eaton, M. D., Bauer, J. H., Putnam, P., Schwentker, F. F. *Ibid*, 1944, **39**, 337.
4. Ministry of Health Memorandum, *Lancet*, 1943, i, 83.

experimental inoculation of human volunteers was begun in England, the United States, and West Africa to determine the identity of the agent, its properties, and possible means of control.

It is now generally accepted that naturally occurring infective hepatitis is caused by a virus. The disease has been transmitted to man by oral administration of unfiltered fæces,[5 6 7 8] Seitz filtrate of fæces,[7] urine,[7] and serum,[8 9] but not by intranasal inoculation of nasopharyngeal washings and throat garglings. By contrast, homologous serum hepatitis has only been transmitted by the parenteral inoculation of serum[10 11] or the intranasal inoculation of nasopharyngeal washings.[12] Oral and nasal administration of fæces from serum-induced cases have failed to produce hepatitis.[13] The results of field observations of infection of contacts, while not ruling out the possibility that such may occur, do not support the conception of a highly infectious disease suggested by the experiments of FINDLAY and MARTIN with nasopharyngeal washings.[12] The need to use human volunteers limits the number of subjects available for reinoculation in cross-immunity experiments and consequently reduces the validity of the conclusions, but the high attack-rates obtainable with some of the inocula used have provided fairly convincing evidence. In a complete set of experiments in which two groups of 6 and 8 subjects have been inoculated and reinoculated at six-monthly intervals with the agents of homologous serum hepatitis and infective hepatitis, NEEFE and his colleagues [14] found complete immunity to the homologous disease but none to the heterologous. Similar results have been obtained in less conclusive experiments by MACCALLUM and BAUER [11] and HAVENS [15]; and MCFARLAN and CHESNEY [16] reported that of 11 people who had had infective hepatitis in childhood 8 developed jaundice when inoculated with an icterogenic pool of mumps convalescent plasma. The only experiments not in accord with these are those of OLIPHANT,[17] who failed to produce hepatitis by the subcutaneous inoculation of infective hepatitis blood from Italy into 10 people convalescent from so-called yellow-fever vaccine (serum) jaundice in the U.S.A.

Although homologous serum hepatitis has not been transmitted experimentally to animals, the observations in man suggest that in most instances it is produced by an infective agent which is not the one causing infective hepatitis. As is the case in syringe-transmitted hepatitis, there is always the possibility that in some cases the agent present in serum pools is that of infective hepatitis and that it was circulating in the blood of donors who were in the preicteric stage or suffering from a mild unrecognised subicteric infective hepatitis. Unfortunately there is still no satisfactory way of inactivating the virus in serum.

5. MacCallum, F. O., Bradley, W. H. *Ibid*, 1944, ii, 228.
6. Havens, W. P., Ward, R., Drill, V. A., Paul, J. R. *Proc. Soc. exp. Biol., N.Y.* 1944, **56**, 206.
7. Findlay, G. M., Willcox, R. R. *Lancet*, 1945, i, 212.
8. Neefe, J. R., Stokes, J. *J. Amer. med. Ass.* 1945, **128**, 1063.
9. Neefe, J. R., Stokes, J., Gellis, S. S. *Amer. J. med. Sci.* 1945, **210**, 561.
10. Oliphant, J. W., Gilliam, A. G., Larson, C. L. *Publ. Hlth Rep., Wash.* 1943, **58**, 1233.
11. MacCallum, F. O., Bauer, D. J. *Lancet*, 1944, i, 622.
12. Findlay, G. M., Martin, N. H. *Ibid*, 1943, i, 698.
13. Neefe, J. R., Stokes, J., Reinhold, J. G. *Amer. J. med. Sci.* 1945, **210**, 29.
14. Neefe, J. R., Stokes, J., Gellis, S. S. *Ibid*. 1945, **210**, 561.
15. Havens, W. H. *Proc. Soc. exp. Biol., N.Y.* 1945, **59**, 148.
16. McFarlan, A. M., Chesney, G. *Lancet*, 1944, i, 816.
17. Oliphant, J. W. *Publ. Hlth Rep., Wash.* 1944 **59**, 1614.

The Postgraduate Medical Federation

WILLINGLY or unwillingly we enter a new era in medicine. Its philosophy is in transition, wavering in its faith in the twin bases of empiricism and applied physical science that have served it for a century, and groping after a broader attitude to the study of man as a whole, healthy and sick. Its content has increased enormously, and the subdivisions of its specialism have reached the stage where knowledge grows but wisdom lingers. And in the organisation of its service to the community it is, in Britain, about to abandon laissez-faire and seek to plan itself —or be planned—in the overriding immediate interest of the "consumer." It is at this moment, and in the aftermath of war, that the University of London undertakes a new venture in postgraduate medical education, to be known as the British Postgraduate Medical Federation.[1] The present state of flux provides a great opportunity, and also many difficulties, but there can be no doubt of the immense potential value of creating in London a strong and influential postgraduate training organisation, under university auspices. It can set the standard, and shape the outlook, for the new generation of specialists both in this country and in many parts of the Empire, and it should also seek in some degree to serve Europe and the rest of the world.

The new federation is better designed for this task than was the original British Postgraduate Medical School, because it embraces the leading special hospitals in London. The prestige and experience of Queen Square, Great Ormond Street, and Moorfields are an obvious source of strength, and the present or proposed inclusion of other special hospitals will round off a comprehensive scheme. The central office in Gordon Square, as an advice and information bureau, will be invaluable to the postgraduate visitor to London, hitherto at a loss to know where to look for what he wants and where to expect a welcome. It will also be useful to members of the federation, for it will be in a position to estimate how far their teaching is meeting the needs of those taught. These vary so widely that they must be met in divers ways. The schools—or "institutes" as they are to be called —must provide both teaching, in the more formal sense, and experience. Teaching means lectures, demonstrations, and discussions, the last mostly bedside discussions. Experience means the opportunity for handling patients, including operating on them, with as great a measure of responsibility as is possible, and in an environment of friendly criticism. In the full training of a specialist, say from a year or two after qualification until he is ready for independent status, experience is the major requirement, and the schools of the federation must be prepared to accept suitable candidates for that training and give them three to five years of such experience as will turn them out first-class specialists. A higher qualification would be an incident in that training. Opportunities for full training will naturally be limited and competition for them should be keen; they might be distinguished as fellowships or by some similar title. For those who do not secure them, and for others who wish to add in a short time to a specialist training already partly completed elsewhere, organised

1. See *Lancet*, April 6, p. 507.

teaching must be provided in larger proportion, as a substitute for first-hand experience and individual study. This in turn will have to be varied in standard and in concentration to suit varying needs. There is also a contribution to be made to the postgraduate education of the general practitioner, whose interest in recent advances and in the content of the specialties is peculiarly selective. All this calls for an extensive study of the aims and methods of postgraduate medical training, to give it refinement and precision. Discussion, experiment, and criticism are needed, and the federation of the principal London schools engaged in the task should give ideal opportunities for these.

The position of the Postgraduate Medical School and Hammersmith Hospital, in the federation, is of prime importance. Unless it can meet all the range of requirements in general medicine, general surgery, and pathology, the federation will achieve little more than its constituent hospitals have hitherto done. The chequered history of the Postgraduate School is well known. The economy axe cut it to a half at its birth. Only the support of the London County Council, with Hammersmith Hospital, enabled it to live at all. But the fact that Hammersmith Hospital had to remain in alignment with the other L.C.C. general hospitals, especially in being closely tied to its own area in the matter of admitting patients, was a distinct handicap. The hospital is difficult of access, and the school has no compensatory attractiveness in the way of buildings or amenities. In the face of these difficulties the school's achievement in attracting a considerable body of students, in producing some notable pieces of research, and in maintaining its activities throughout the war is very much to its credit. It now requires and deserves generous reorganisation. It must be enabled to turn out a number of fully trained general physicians and general surgeons every year, some to practise as such and some to proceed to further specialisation. It must develop the various kinds and proportions of teaching and experience referred to above. It must increase its research activities, which are not only valuable in themselves but also necessary to the conduct of good teaching and good clinical work. The links between the Postgraduate School and the other members of the federation will presumably be more than their common tie to a central office; they should be personal and intimate. Already some members of the staffs of the special hospitals are visiting specialists to Hammersmith Hospital; the reciprocal appointment of general physicians and even general surgeons from Hammersmith as visiting consultants to the special hospitals would strengthen the personal associations, widen clinical experience, and counteract isolation. The balance and the success of the new federation seem to demand the bold and early expansion of the Postgraduate School—increased staff, increased accommodation (however great the building difficulties), and increased freedom in securing and selecting clinical material.

In other times and in other places postgraduate teaching has owed some of its impetus to the impecuniosity of the teachers. In general its growth has been haphazard. It now makes a fresh start in London, deriving its impulse from a sense of duty towards medicine, and an appreciation of the immense opportunity that London affords.

Annotations

THE FRESH LOAF

ANY who may be dismayed by the Minister of Food's apologetic announcement of an increase in the extraction-rate of flour to 90% should seek comfort in the results of an experiment carried out in the autumn and winter of 1939. Eight subjects were submitted for 3½ months to a diet consisting of unlimited wholemeal bread of 92% extraction (fortified with calcium carbonate) and green and root vegetables, with restricted quantities of other foods. Milk was limited to ¼ pint a day, and meat, bacon, and fish to an aggregate of 1 lb. a week. Other weekly allowances were 1 egg, 4 oz. margarine, 4 oz. cheese, 6 oz. fruits, 10 oz. pulses, and 4 oz. rice. The average weekly consumption of oatmeal was 2 oz., and nuts were served once or twice. An autolysed yeast product was used for flavouring.

This diet was in most respects smaller than that which we have known with official rationing. Most of the subjects not only bore up, but performed extraordinary feats of physical endurance in the Lake District; and all remained in excellent health and were proved to be normal or better than normal by every biochemical test that was applied. It was concluded that once an adult had become accustomed to the diet, it was satisfactory for all ordinary purposes. Two members of the party had difficulty in acclimatisation: one owing to her age (she was 70); the other owing to incomplete psychological adaptation. The latter had decided that a grumbler was needed to balance the party, and, though in one way unsatisfactory for the experiment, she gave, before abandoning it at Christmas-time, a clear foretaste of the reaction of one section of the community to a changed diet. Those that persevered approached their meals with gusto, and noticed no monotony. When they later returned to standard rations, their tastes clearly reflected their recent practice—thus underlining once again the necessity to distinguish habit from instinct.

The results, already the subject of comment,[1] have now been fully reported in a breezily written booklet[2] containing a wealth of information which should be studied by all concerned with nutrition. Although the experiment was described in an official report as long ago as 1940, unrestricted circulation has hitherto been prohibited. The grounds for this veto are obscure: it might be thought that the report's problematical value to the enemy would have been outweighed by its capacity to dispel the gloom which surrounded the introduction of rationing in this country. Even now it provides timely confirmation of the observation, made during the German occupation of the Channel Isles, that adults who consume a restricted diet consisting largely of wholemeal bread and vegetables may find it not unpalatable, and will suffer no deterioration in health.

DEATH AFTER SERUM

THE death following the administration of antitetanic serum reported by Dr. Eric Gardner on another page should serve as a warning to all who use serum of any kind in prophylaxis or treatment. Fortunately such accidents are far from common. Park in 1928 estimated that the incidence of alarming symptoms is 1 in 20,000, and of fatalities 1 in 50,000.[3] Refined serum has since reduced these accidents to an even lower level.[4]

The pathogenesis of fatalities from such injections is not clear. The aerated lungs, congested veins, and subendothelial hæmorrhages all suggest an analogy with fatal anaphylaxis as seen in the guineapig. On the other hand, in most of the fatal cases reported in man there

1. *Lancet*, 1945, ii, 569; March 30, 1946, p. 467.
2. McCance, R. A., Widdowson, E. M. *Spec. Rep. Ser. med. Res. Coun., Lond.* 1946, no. 254. 1s.
3. Park, W. H. *Amer. J. publ. Hlth*, 1928, **18**, 354.
4. Top, F. H., Watson, E. H. *Amer. J. Dis. Child.* 1941, **62**, 548.

has been no history of any previous injection of serum that might have acted as the sensitising dose which appears to be essential for the production of anaphylactic phenomena in animals.[5] But in both man and animals these related conditions are dramatically cured by adrenaline. On the value of preliminary testing for sensitivity to the serum there is a diversity of opinion; certainly little is lost by caution in the rate of administration, but accidents have occurred even after testing for skin sensitivity and injecting in small divided doses. Probably the warning to which most attention should be paid is a history of asthma or of an "allergic diathesis." Observance of the following rules would help to prevent similar fatalities. (1) The injection of serum or bacterial toxoid must be made by the doctor or at any rate in his presence. (2) Whenever possible refined serum only should be used; the smaller bulk of this new product is an added advantage. (3) A sense of security should not be harboured on the strength of there being no history of previous injections of serum; and a history of asthma should be regarded as a warning of serious danger. (4) A syringe containing 1 in 1000 adrenaline should always be at hand.

UNDERGRADUATES AND NATIONAL SERVICE

NOT least of the difficulties that have confronted successive Ministers of Labour in recent years has been that of determining the place of the undergraduate in relation to conscription. Since the Military Training Act came into force in 1939, and more especially after the outbreak of war, the Minister's first duty has been to impress into the Armed Forces as many of the country's youth as was compatible with immediate civilian needs; this obligation applied with equal, if not sterner, force to university students, whose contribution to the efficiency of the Services is particularly valuable. Against this the Minister had to weigh the opposing consideration that the rigorous application of his powers throughout a long war would disrupt the university system and cause a dearth of graduates for years thereafter. These were the issues, and it may be agreed that from the start the balance has been nicely struck. Ministers have wisely sought the advice and coöperation of schoolmasters and vice-chancellors; and as early as June, 1939, Mr. Ernest Brown, then Minister of Labour, was able to announce that he had the unanimous support of these authorities in his offer of postponement or anticipation of military training to undergraduates who were about to begin their studies. Similar restraint and understanding marked subsequent concessions such as those whereby students were allowed, under certain circumstances, to delay enrolment on the active list, and medical students were permitted, provided that they had completed their second term of physiology and anatomy, to complete their training.

Now the tide has turned. The ebb has ended, and the Minister must reorientate himself to direct the flow back to the universities. Now, as after the war of 1914–18, the number of teachers does not suffice for the applicants who seek a university training; and some must be denied admission, at least for a time. Mr. George Isaacs, the present Minister, has announced his proposals for allotting vacancies in the coming academic year. As might be expected, first priority is given to ex-Servicemen and others who have been engaged in important civilian work, "provided they are suitable for acceptance" by a university; and universities may apply for the return of promising students who are in release groups 1–55, or who have completed three years' work of national importance. (The call-up of the latter class will be deferred until their courses are completed.) The remaining places are to be allotted to students born between Oct. 1, 1927, and Sept. 30, 1928, who are recommended for deferment by joint recruiting boards. At the same time the universities may apply for the inclusion of specific students in this age-group, to a maximum of 10% of the available places, even where their admission would exclude older men or ex-Servicemen. The admission in the coming year of students born after Sept. 30, 1928, is to be discouraged, and any that are accepted will be numbered in this 10%. Medical, dental, and veterinary students, who have hitherto been reserved, will now be considered individually on entry by the joint recruiting boards in the same way as students in other faculties.

Once again the Minister has sought and obtained the general approval of the university authorities. The recognition of the ex-Serviceman's claim will be universally supported; and there will be little opposition to his other decisions, provided that every vacancy is immediately and suitably filled.

THE CRYING BABY

THE neonatal period is still a no-man's-land between the obstetricians and the pædiatricians, in which, as the mortality-rates show, there are many casualties. Hence any factual study of the behaviour of newborn infants is to be welcomed. Aldrich, Sung, and Knop[1] have recently recorded observations on the crying of babies in the "modern nursery" of St. Mary's Hospital, Rochester, Minn. Four observers shared the 24 hours between them and for 30 days noted when, and for how long, the babies cried. They also noted the time and duration of "nursing care" and found that "reciprocal relation between crying and nursing care was clearly evident." This not unexpected conclusion has practical implications. They point out, for instance, that at certain times (from midnight to 2 A.M. regularly) there were only two student nurses on duty, and these were occupied with cleaning—a state of affairs familiar enough in children's wards in this country. It is always difficult to get hospital authorities to see that a baby does not make the convenient adult distinctions between night and day. The most important single cause of crying outbursts was delay beyond the regular feeding-time. On the average the babies cried for 2 hours out of every 24.

The authors promise a further study of crying as a "matter individual with each infant," and it is to be hoped that in this they will link up their facts with the theories of psychologists on types of crying, and give more information about the precise discomforts which caused the distresses they seek to relieve.

THE HYPERABDUCTED ARM

ANOTHER facet has been added to our knowledge of hazards to the subclavian vessels and brachial plexus in the posterior triangle and axilla. Attention long ago shifted from the rôle of congenital rib anomalies in this region to the part played by the soft tissues, particularly in the scalenus syndrome; and in recent years the importance of compression of the neurovascular bundle between clavicle and first rib has been noted by Eden,[2] by Walshe, Jackson, and Wyburn-Mason,[3] and by Le Vay.[4]

Now Wright [5] has recorded 5 examples of a similar neurovascular syndrome produced by hyperabduction of the arms in patients who were in the habit of sleeping with their hands behind the head. In 4 of these the syndrome was bilateral; 1 had gangrenous changes in the finger-tips. All were cured by sleeping with the arms by the side. Wright examined 150 young adults, and found that in 82–83% the right and left brachial pulses were obliterated by hyperabduction of the arms

5. Vance, B. M., and Strassmann, G. *Arch. Path.* 1942, **34**, 819.

1. Aldrich, C. A., Sung, C., Knop, C. Q. *Proc. Mayo Clin.* 1945, **20**, 347.
2. Eden, K. C. *Brit. J. Surg.* 1939, **27**, 111.
3. Walshe, F. M. R., Jackson, H., and Wyburn-Mason, R. *Brain*, 1944, **67**, 141.
4. Le Vay, A. D. *Lancet*, 1945, ii, 164.
5. Wright, I. S. *Amer. Heart J.* 1945, **29**, 1.

to the fully elevated position. There was considerable variation in the degree of abduction at which the pulse first disappeared, and in some cases it disappeared only when the limb was forced backwards as well as being abducted, so that a feeling of tension in the axilla was produced. The neurological symptoms corresponded with the vascular features; and the impression was that these were normal findings, but that, favoured by specific conditions in individuals of certain physiques, pathological changes might ensue. At the critical angle of abduction, when the pulse was on the point of obliteration, certain ancillary factors were observed to complete its disappearance—deep inspiration, rotation of the head, hyperextension of the neck, or contraction of the pectoral muscles. Further work based on experimental dissections made it clear that neurovascular compression may occur at two sites. One is the costoclavicular interval, with which we are already familiar. The other is where the bundle passes behind the pectoralis minor, just medial to the coracoid process; here it is relaxed and free from compression in adduction, but abduction stretches it around and underneath the root of the coracoid, and tautens the overlying pectoralis against it. In hyperabduction, both mechanisms may operate; but the subcoracoid-pectoralis-minor syndrome may manifest itself at only 90 degrees of abduction when the costoclavicular interval is still wide.

Wright points out that no treatment is needed beyond sleeping with the arms by the side and giving up any occupational strain, such as house-painting; but if, in addition, features of costoclavicular compression are present, resection of part of the first rib may be necessary.

We are gradually evolving a clear picture of the pathology behind the numerous vague pains in the neck and arms, and we may resort to the diagnosis of brachial neuritis a little less often. The new knowledge will make us ponder even more ruefully on the penalties of abandoning the quadruped position.

INFIBULATION IN THE SUDAN

MOST, though not all, teachers of the Mohammedan religion regard circumcision as obligatory for males; but circumcision of females is not considered essential, though believed to be advantageous. As prescribed by Mohammedan law, female circumcision is restricted to the removal of a piece of skin "the size of a date-stone" from the vulva; and it may have originated as an aid to cleanliness in a region where water is scarce. In many parts of Africa, however, custom dictates more drastic operations. In Egypt the clitoris and the labia minora are removed, either as a form of toilet or to lessen sexual desire.[1] In the Sudan, and also in Ethiopia, Somaliland,[2] and parts of Kenya and West Africa, the more extensive "pharaonic circumcision" or infibulation is performed in order to prevent intercourse before marriage. In these countries it is usual, when the girl is about six years old, for the clitoris and large parts of the labia minora and majora to be excised by an untrained midwife, using an unsterilised razor; the shrieks of the child are drowned by the cries of female relatives who hold her down. A reed or match is then inserted into the vagina to maintain the patency of the orifice, and the legs are strapped together for forty days to encourage union of the two sides. In a few tribes, thorns are used as sutures, and these are held together by thread wound round their projecting ends. When the child grows up the scar is incised at each confinement, but is usually restored later by further ligatures.

It is now 21 years since the Kitchener School of Medicine was founded to train Sudanese doctors. These doctors, together with the enlightened Moslem religious leaders, have set their faces against the continuance of this barbarous practice in their country, and last year the Sudan Government sought the opinion of the Advisory Council for Northern Sudan (an almost entirely Sudanese body) on the possibility of suppressive legislation. The inquiry revealed that the survival of the custom is due mainly to the intense conservatism of the women themselves; the mere report that its abolition was under discussion caused a wave of circumcisions of girls of still younger age than usual. The council nevertheless passed by 18 votes to 9 a request to the government to prepare legislation for the suppression of the pharaonic type of circumcision, and a draft was presented to the Advisory Council last November. The proposed addition to the penal code would make female circumcision a criminal offence, except in the normal Mohammedan form; it would thus not be unlawful "to remove the free and projecting part of the clitoris" with the consent of the woman or her guardian. The council favoured the proposal generally, and it is probable that the Sudan government will proceed with the projected legislation. It is hoped that in so doing they will have the support of enlightened opinion among the Sudanese themselves, who can surely not desire the continuance of a custom which is elsewhere regarded as cruel, senseless, and actually harmful. The spread of female education would no doubt in time put an end to this outrage; but female education is a plant of slow growth, and there is no justification for deferring action to arrest this torture of children in a land which aspires to civilisation.

1. Girgis, B. *Lancet*, 1936, i, 170.
2. Melly, J. M. *Ibid*, 1935, ii, 1272.

PHOTOMETRIC MEASUREMENT OF BACTERIAL GROWTH

SINCE bacteriology began, comparison by eye of the relative opacities of bacterial cultures has been a routine method of judging bacterial growth in liquid media. It is now easy to express such opacities quantitatively, with an accuracy of ± 1 to 3%, by using a photoelectric absorptiometer. Less than £100 will buy the complete equipment, which is easy to operate and provides direct scale readings of optical densities of liquids. Optical density is defined as the logarithm of the ratio of the intensity of light incident on a system, to that of the light transmitted by it, but this definition may be forgotten, since in ordinary suspensions the optical density—that is, the instrument readings—are proportional to the mass of bacteria in suspension. Some 20 cultures can be compared, taking duplicate readings of the instrument, in an hour. This method is now often adopted in microbiological assays for estimating vitamins of the B group.[1] In such cases, opacities given by bacterial growth in media containing known quantities of, for example, riboflavine, are compared with those of the growth in media containing the material to be assayed.

When applied to more purely bacteriological problems, such as bacterial growth itself, or the influence on it of chemotherapeutic agents, the information provided by photometric measurements must be considered more carefully. Of the well-established measures of bacterial growth, bacterial mass is most closely comparable with optical density. A factor obtained by measuring the dry weight and optical density of the same suspension is often used to convert the readings of the instrument to the dry weight of bacteria present. Photometric readings are not necessarily proportional to numbers of bacteria; they would register little change if every cell of a suspension divided into two without growth of bacterial substance, but would increase if each cell grew bigger without dividing. And they do, of course, measure total cell population whether or not the cells are viable. It would not be admissible, therefore, to try to standardise a photoelectric absorptiometer by comparing its readings with the results of "viable counts." Among the minor points to be remembered

1. e.g., Lampen, J. O., Peterson, W. H. *J. biol. Chem.* 1944, **153**, 193.

is that the instrument will respond to any precipitate or colour change which occurs in the medium.

In following bacterial growth, photometric measurements are complementary to methods in which individual bacteria are counted, whether as viable organisms after plating or as total organisms by using a hæmocytometer. Both these older methods can deal with much more dilute suspensions than can the photometer. The ordinary instrument will begin to give significant readings only about the point at which the first slight opacity becomes just visible to the naked eye. Direct readings with the absorptiometer can be obtained over about a 30-fold increase in density beyond that point. For denser suspensions, known dilutions can easily be prepared to fall on the instrument's scale. The most serious limitation of photometers, therefore, is their insensitivity to light growth. Their great virtue lies in their provision of easy, frequent, and fairly accurate measurements of the growth of cultures in their later or denser phases. Peculiarities of growth can thus be clearly defined—peculiarities which with other methods might be overlooked or dismissed as anomalies in one or two counts of a series. A recent study [2] of the growth of staphylococci in concentrations of penicillin (0·008–0·015 unit per ml.) which inhibit growth only slightly provides an instance of this. The cultures in the presence of the drug showed several phases: growth was inhibited after a short incubation-period, and then lysis occurred; after some hours growth began again and reached a level higher than before but again was inhibited and followed by lysis; growth began once more after a further interval, and this time reached the level attained in the uninhibited controls some hours earlier. This seems to confirm Bigger's [3] findings that penicillin acts only on growing organisms, but that a proportion of organisms of a culture are in a persistent state and can grow later. The progeny of the "persisters" are about as sensitive to penicillin as the bulk of the original culture.

WOMEN DOCTORS IN AMERICA

IN the United States, as here, there are many women doctors in the health services; but women form a smaller proportion of the profession. The prospects for American women in medicine have lately been considered in a bulletin from the Women's Bureau of the U.S. Department of Labor,[4] which records the number practising in 1940 as 7600, or 4·6% of the 165,000 practising doctors. In this country there are between 7000 and 8000 women among about 53,000 doctors on the British part of the Medical Register, amounting to some 13–15%; so it seems that the career of medicine attracts a lower proportion of American than of British women. There is also some reason to think that women here make a larger contribution to specialist medicine than they do in the States: in 1941 only 5% of American women doctors were qualified as specialists, compared with 8% of men.

Some of the reasons for these differences appear in the bulletin. Training is even longer and more expensive in the States than in Britain, and though special loans were offered during the war, women were loth to take them "since such an obligation is felt to be a bar to matrimony, and furthermore, since few families urge girls into college unless financial provisions can easily be made for them." The balance of the sexes in America is such that women can count on selective opportunities for marriage; Dr. Jessie Gray is quoted in the bulletin as saying that "marriage at an earlier age than is compatible with a medical education will always be more attractive to the vast majority of girls," and she concludes there will never be any great surge of women into medicine. Apart from marriage, eight other careers compete with medicine for the educated girl: teaching, nursing, music and music teaching, social welfare, library service, college teaching, art and art teaching, and journalism. To many women nursing offers a more attractive career than medicine, and American nursing carries the rewards and status which English nursing lacks.

Women students find difficulty in gaining places in medical schools, for though all except four schools in the United States receive them, only about half the applicants—either men or women—are normally accepted. Women also find it difficult to get residents' posts, especially in surgery; and though they have done well in pædiatrics, psychiatry, and public health they do not easily gain administrative appointments or posts in medical research and teaching. Most women doctors agree that a woman encounters, on the whole, more opposition in her medical career than a man; but the war has increased her opportunities temporarily and may have done so permanently. The bulletin concludes that the increased demand for doctors of all types in the coming years will more than offset the increase in supply during the war; and that women now in training are likely to have greater rather than poorer opportunities than their forerunners.

FORMATION OF GASTRIC HCl

William Prout, a man who deserves more recognition than he is ever likely to receive, was a biochemical visionary of the highest order, and it was he who discovered that the walls of the stomach secrete hydrochloric acid. In his Goulstonian lectures,[1] delivered before the Royal College of Physicians in 1831, he described his discoveries of the previous 10 years, and as a result he was reviled and pilloried by his contemporaries for his heretical beliefs. The first attempt to find out how the acid was formed seems to have been made by Claude Bernard, who injected ferrocyanide and iron lactate into an animal. Prussian-blue was formed in the gastric mucosa but not apparently in the gland cells or ducts, and Bernard concluded that the acid was formed from some neutral substance secreted by the cells. Similar attempts to find out the origin of the HCl were made by other observers using inorganic substances and vital dyes. One theory which has been seriously considered is that alkaline sodium phosphate in the cells reacts with carbonic acid to form acid sodium phosphate, which in turn reacts with NaCl to give alkaline sodium phosphate once more—and HCl. This view has been supported by a histochemical demonstration that the gland cells are exceptionally rich in phosphates.[2] A finding of Claude Bernard [3] which seems to have been confirmed by many people is that raising the partial pressure of CO_2 in the circulating plasma increases the concentration of HCl in the gastric juice.[4] The gastric mucosa has also been shown to be very rich in carbonic anhydrase, suggesting that part of the mechanism of acid secretion is a rapid synthesis (or breakdown!) of carbonic acid. There is in short little doubt that the HCl of the gastric juice must ultimately be formed from the NaCl of the circulating plasma, and that as Cl ions leave the Na to pass into the stomach, HCO_3 takes their place.

Against this background two new theories have been put forward, one by the Dublin workers, Conway, FitzGerald, and Walls,[5] and the other by two Chicago

2. Bonet-Maury, P., Perault, R. *Nature, Lond.* 1945, **155**, 701; *Ibid*, 1946, **157**, 131.
3. Bigger, J. W. *Lancet*, 1944, ii, 497. Cf. Hobby, G. L., Dawson, M. H. *Proc. Soc. exp. Biol., N.Y.* 1944, **56**, 178. Miller, C. P., Foster, A. Z. *Ibid*, p. 205.
4. The Outlook for Women in Occupations in the Medical Services: Women Physicians. Bulletin 203, no. 7.

1. Prout, W. *Lond. med. Gaz.* 1831, **8**, 257.
2. Best, C. H., Taylor, N. B. Physiological Basis of Medical Practice, London, 1943.
3. Bernard, C. Leçons de Physiologie Operatoire, Paris, 1879.
4. Adams, W. L., Welch, C. S., Clark, B. B. *Amer. J. Physiol.* 1943, **139**, 356.
5. Conway, E. J., FitzGerald, O., Walls, D. *Nature, Lond.* 1945, **156**, 477.

investigators, Bull and Gray.[6] In some respects these theories resemble each other; in others they are diametrically opposed. The Dublin school starts from the observation that high concentrations of hydrochloric acid can be formed in the medium when ordinary bakers' yeast is set to ferment in a solution of KCl. Conway suggests, therefore, that an isotonic solution of KCl is secreted into the intracellular canaliculi, and that as the fluid passes down them K ions are reabsorbed and H ions take their place. The reabsorbed K ions neutralise some keto acid, such as pyruvic acid, which is being formed along the inner side of the membrane of the canaliculus by cellular metabolism; the pyruvate is then decarboxylated, and CO_2 or H_2CO_3 set free, to pass backwards into the plasma, there to recombine with Na. It will be noted that this theory involves a transference of basic ions across the cell membranes and is somewhat similar to an older one turning on the secretion of NH_4Cl, with subsequent reabsorption of NH_4 and replacement by H ions.

The American theory involves the secretion of an organic (probably pyruvic) acid into the canaliculi with subsequent reabsorption of the acid radicles and their replacement by Cl ions. The organic radicle is at once decarboxylated when it re-enters the cell, and so the necessary gradient for the continuous diffusion of the pyruvic radicles back into the cell is maintained. This is rather an attractive theory and it differs essentially from Conway's in postulating a transfer not of cations but of anions across the membrane of the canaliculi. Neither the American nor the Irish workers discuss their theories in the light of much of the previous work, and it is not clear on either theory why raising the partial pressure of CO_2 in the circulating plasma favours the formation of HCl, which seems to have been established. On either theory, however, it could be predicted that a deficiency of aneurine or nicotinic acid would lead to achlorhydria, because these vitamins are necessary for the production and destruction of pyruvic acid, and clinical experience supports both these predictions.

It seems strange that in spite of all the biochemical discoveries of the last 120 years the origin of the HCl so ably demonstrated by Prout still eludes us.

ARTERIAL SPIDERS

DURING the last seventy years many isolated reports of the condition known variously as nævus archnoideus, stellate angioma, étoile vasculaire, or arterial spider have appeared, and Bean [7] has now brought them together into a unified description, and incorporated data derived from 430 cases he has observed.

The arterial spider varies considerably in shape and size, attaining a diameter up to 1·5 cm., and consists essentially of a bright red body, 1 mm. or more across, legs, and a surrounding area of erythema. The body, when large, may be raised as much as 5 mm. above the surface and usually exhibits pulsation which is sometimes visible. The legs, or radicles, consist of branching vessels which radiate out parallel to the plane of the skin, just below its surface, gradually fading towards the periphery and sometimes uniting to form a loosely or closely knit reticulum which in advanced cases may become a telangiectatic mat. The area of erythema, which may be circular or star-shaped, usually extends a few millimetres beyond the legs, but if the legs are not easily visible the spider may appear as a circular area of erythema with a central red punctum or pulsating papule. The whole has a characteristically fiery red colour. The main vessel of the spider is an artery larger than those usually arising in the subcutis, and the blood flows centrifugally from the punctum towards the periphery. The spider is not an arteriovenous shunt in the sense of a glomus body, nor is it comparable to an arteriovenous aneurysm, because the branches of the central artery carry arterial blood into smaller vessels and thence into capillaries from which in turn the blood is collected by veins. The arterial spiders occur most commonly on the face and neck, and in decreasing frequency over the shoulders, thorax, upper arm, lower arm, back of hands, and fingers. They are rare on the lips, ears, nail beds, and palms, and less than 1% occur below the level of the umbilicus. They are seldom seen on hairy sites, such as the scalp, axillæ, or pubic region. Bean suggests that this distribution may be associated with the varying tone of the small vessels of the skin, the spider tending to form where vascular tone is relaxed, as in the blush area. That they are associated with a generalised disturbance of the cutaneous vessels is suggested by the accompanying cutaneous phenomena. Thus it is not uncommon to find them on "paper-money skin," in which there are scattered strands of vessels resembling the silk threads in American notes. They may also arise in people with palmar or plantar erythema—a reddening of the palms or soles sometimes associated with hepatic disease.[8]

Arterial spiders are usually found in one of three conditions—liver disease, pregnancy, and deficiency of the vitamin-B complex. However, Bean observed them in 107 apparently normal people whose ages ranged from less than a year to 79 years. Other conditions in which they have been described include scleroderma, Cushing's syndrome, and rheumatic fever. The only real diagnostic problem is the differentiation from Osler's disease (hereditary hæmorrhagic telangiectasis), and the differences are sufficiently clear to justify a complete separation of the two. Thus in Osler's disease the telangiectases are smaller, bluer, and less liable to pulsate; they are ubiquitous in distribution, bleed freely, and never appear or disappear suddenly as may the spider. The ætiology of arterial spiders is still unsolved, and Bean suggests that they arise from an alteration in the small arteries of the skin due to "an increase or qualitative change in circulating œstrogens or hormones of related chemical structure, a change that is normal in pregnancy, pathological in hepatic disorders in which the liver fails in its function of keeping the 17-ketosteroids in balance and at a proper level."

6. Bull, H. B., Gray, J. S. *Gastroenterology*, 1945, **4**, 175.
7. Bean, W. B. *Medicine, Baltimore*, 1945, **24**, 243.
8. *Amer. Heart J.* 1943, **25**, 463.

MIDDLESEX HOSPITAL'S BICENTENARY

THE Middlesex Hospital this year celebrates the 200th anniversary of its foundation. Though less venerable than Bart's, which is in its 400th year, the Middlesex has no less eventful a history. Its present title came into use in 1746, but the institution really originated in 1745 with the opening of the "Middlesex Infirmary" in two dwelling-houses in Windmill Street. In 1747 the hospital, founded for the sick and the lame, began to accept lying-in women. Ten years later, when it was transferred to a new building on part of the present site, the Middlesex was committed to a process of expansion which has led to its present eminence. Among this year's celebrations will be three addresses: Chemistry and Medicine by Sir Robert Robinson, P.R.S., on May 20; The Future of the Medical Sciences by Sir Edward Mellanby, F.R.S., on May 22; and The Middlesex and Medicine by Sir Lionel Whitby on May 23.

THE next session of the General Medical Council will begin on Tuesday, May 28, at 2 P.M., when Sir Herbert Eason, the president, will deliver an address.

THE order of the White Lion of Czechoslovakia has been conferred on Mr. Geoffrey Knight by President Benes in recognition of his services as neurological surgeon to the forces of the Republic.

Parliament

NATIONAL HEALTH SERVICE BILL

THE debate on the second reading of the National Health Service Bill ended with a majority for the Government, in a crowded and effervescing House, of 359 to 172. A number of Conservatives abstained from voting against the Bill, and Liberals and Independents voted with the Government.

Mr. BEVAN'S opening speech was quiet in tone, expository, and explanatory; and as both sides are committed by their Coalition white-paper to a 100% comprehensive service the debate could not entirely follow the lines of party controversy.

The Opposition opened badly with Mr. Richard Law's personal attack on the Minister as lacking knowledge of this "very important" matter and setting his own "intuition and judgment against all those best-informed in the medical profession." Mr. Law seemed unaware of the contents of the regional hospital surveys made by distinguished representatives of the medical profession since they were inaugurated by Mr. Ernest Brown as Minister of Health in 1941. He also fell into error when he attributed to the Royal College of Obstetricians the statement that the Minister's proposals "were likely to lead to a great increase in maternal mortality." The truth of this was flatly denied by a Government supporter, and then Dr. Morgan produced the college's memorandum and passed it to Mr. Law, who was unable to quote anything except the statement that "the care of the pregnant woman . . . cannot be discharged with the maximum safety to the two lives at stake if it is shared between different administrative bodies."

Then came speech on speech from medical and non-medical members—doctors for once being able to "catch the Speaker's eye" in unusually large numbers. Sir Henry Morris-Jones complained that "consultations" should have been more thorough and said the Bill should refer to "a national disease service." He thought that we had neither the doctors nor the hospitals to work the service as it would need to be done, but he regarded the present distribution of doctors as a fair one as between the "under-doctored" and "over-doctored" areas. Mr. Key, parliamentary secretary to the Ministry of Health, made a very good impression on the House by his vigorous advocacy of the Bill and his evident knowledge of its intricacies. When Mr. Willink came to lead off for the Opposition he was not happy. He became involved in statements on policy on which the Minister rose and roundly accused him of making "a series of statements purporting to describe departmental arrangements which were made by the last Government in modification of the [Coalition] white-paper and which have never been published." His speech attacked policy in general, the general-practitioner policy, and basic salaries, and he had many interruptions. Mr. Clement Davies, Leader of the Liberal Party, wished the Minister well from "the bottom of my heart."

On the last day the temperature rose considerably, and the debate ended in a clash between Mr. Arthur Greenwood, replying for the Government, and Mr. Willink protesting against the document issued by the B.M.A. which spoke of the "administrative structure put forward by the Minister as a possible alternative to that outlined in the white-paper." Mr. Willink did not admit that he was ever committed to recommend these proposals to the Cabinet.

And so to the division lobby and afterwards to the smoking-room, where it was agreed that in the committee stage which will begin next week we shall get down to the 10% of difference that divides us.

MEDICUS, M.P.

THE DEBATE

ON April 30, in moving the second reading, Mr. ANEURIN BEVAN, Minister of Health, said that in the last two years there had been such a clamour from sectional interests that we were in danger of forgetting why the proposals had been brought forward at all, and he welcomed this opportunity of giving consideration not to this or that interest but to the requirements of the British people as a whole. But any scheme dealing with national health, he continued, must be conditioned and limited by the evils it was intended to remove.

WHY THE SCHEME IS NECESSARY

All parties agreed that money ought not to be permitted to stand in the way of obtaining an efficient health service. The first evil we must deal with was the anxiety caused by doctors' bills. Everyone ought to be able to receive medical and hospital help without being involved in financial anxiety.

In the second place, National Health Insurance did not provide for the self-employed nor for dependants, and no matter how ill a patient was, if he ceased to be insured he ceased to have free doctoring. Furthermore, it gave no backing to the doctor in the form of specialist services. The doctor must use his own personal connexions to obtain for his patients hospital treatment and specialists' advice, and for an overwhelming number of poor people specialist services were not available.

Our hospitals, Mr. Bevan pointed out, had grown up without plan or system; they were unevenly distributed over the country, and often the best facilities were available where they were least needed, while in the older industrial districts they were inadequate. Many hospitals were too small. About 70% had less than 100 beds, and over 30% less than 30. No-one could pretend that hospitals so small could provide general-hospital treatment. There was a tendency to defend the very small hospital on the ground of its localism and intimacy, but if a hospital was to be efficient it must provide a number of specialised services. Though not a devotee of bigness for bigness' sake, Mr. Bevan confessed he would rather "be kept alive in the efficient if cold altruism of a large hospital than expire in a gush of warm sympathy in a small one."

The condition of the teeth of the people of Britain, he affirmed, was a national reproach. Since dental treatment had to be bought, it had not been demanded on a scale sufficient to stimulate the creation of sufficient dentists, and there was a woeful shortage of dentists. About a quarter of the people of Britain could obtain their spectacles and get their eyes tested with the help given by the approved societies, but the general mass of the people had no such facilities. Again, insufficient attention had been given to deafness, and to the provision of cheap hearing-aids and their proper maintenance. Mr. Bevan added that he hoped soon to be able to make an announcement on that question. Another disability of the health services was the isolation of mental health from the rest of the services. Although this Bill did not alter the Lunacy Acts—that would come later on—it did for the first time bring mental health into the general stream of the health services.

One of the first merits of the Bill was that it provided a universal health service to the whole population without insurance qualification, though there would be some limitations for a while because of shortages. For instance, there were not enough dentists, and we must give priority to expectant and nursing mothers and to children, and later to adolescents. But the aim was to build up a service for the whole population. There were shortages, too, of nurses and hospital accommodation, and it would be some time before the Bill could fructify fully in an effective universal service. Specialists would be available not only at institutions but for domiciliary

visits. They would be at the back of the general practitioner should he need them.

POSITION OF THE HOSPITALS

In paying tribute to the voluntary hospitals' long history of devotion and sacrifice, Mr. Bevan said it would be a most frivolously minded man who would denigrate their immense services. But they had been established often by the caprice of private charity. Two hospitals close together often provided the same specialist services, while other areas had not that kind of specialist service at all. Endowments were often left to hospitals in those parts of the country where the well-to-do lived, while in many industrial and rural districts there was inadequate hospital accommodation. Many voluntary hospitals were too small, and to leave them as independent units was impracticable.

He believed it was repugnant to a civilised community for hospitals to have to rely upon private charity. Flag-days ought to be left behind. But the implications in the change were considerable. When the all-in insurance contributions fell to be paid it was estimated that 80–90% of the revenue of voluntary hospitals would be provided by public funds, and it would be a misuse of language to call them voluntary. To take over the voluntary hospitals would, he realised, give rise to resentment in many quarters. But he was concerned not with the hospital authorities, but with the people the hospitals were supposed to serve. Every investigation had established that the proper hospital unit must comprise about 1000 beds. General and specialist services could be provided only in a group of that size. This meant that hospitals must be linked together, and that could not be done effectively if each hospital was a separate autonomous body. Many cottage hospitals strove to give services that they were not competent to give, and the welfare of the patients was sacrificed to the vaulting ambitions of those in charge of the hospital. But if these hospitals were to be taken over, who was to be the receiver? He had examined the local-government hospital system to find that many local authorities had never been able to exercise their hospital powers. They were too poor. They were too small. Many had inherited their hospitals from the poor-law system, some with monstrous buildings, a cross between a workhouse and a barracks or even a prison. He had had to reject the local-government unit because the local-authority area was no more an effective gathering-ground for the patients of the hospitals than the voluntary hospitals themselves. London was an example of being too large and too small at the same time. If we intended to universalise the best, to give the same standard of service to every citizen, how could that be articulated through a rate-borne institution? The local authorities were too small, and their financial capacities were unevenly distributed. The only thing to do was to create an entirely new hospital service to take over voluntary and local-government hospitals, and to organise them as a single hospital service throughout the country, with the nation itself carrying the expenditure.

REGIONAL HOSPITAL BOARDS

The effective hospital unit, it was held, must be associated with the medical school. If hospitals were grouped in about 16 to 20 regions around the medical schools within the regions, there would be the wide range of disease and disability to provide the basis for the specialised hospital service. By grouping hospitals around the medical schools the general practitioners would also be kept in more intimate association with medical thought and training. Moreover, the body carrying out the hospital services would be at the same time the planners of the hospital service. The regional hospital organisation was also to be the authority associated with the specialised services which could be made available for areas of that size.

When the Bill reached the committee stage there would doubtless be different points of view about the constitution of the regional board. It was not intended, Mr. Bevan pointed out, that the board should be a conference of persons representing different interests and organisations. That would mean that the board would not be able to achieve reasonable homogeneity. It was intended that the boards should be drawn from members of the profession, from the major public-health authorities in the area, from the medical schools, and from those who had long experience in voluntary hospital administration. The Government hoped before long to build up a high tradition of hospital administration in these boards. Though he was prepared to discuss how the boards should be constituted, he hoped that he would not be pressed to make them merely representative of different interests and different areas.

THE GENERAL PRACTITIONER

General practitioners, Mr. Bevan proposed, should not be under direct contract with the Ministry of Health, but under contract with entirely new bodies on which doctors, dentists, and chemists would have half the representation. To some extent he sympathised with the medical profession's resistance to coming under the authority of local government, and the Government's scheme did not involve this. The scheme provided a greater degree of professional representation for the medical profession than any other scheme. But he believed that the demands of democracy were not satisfied by the opportunity of putting a cross against someone's name every four or five years. Democracy meant active participation in administration and policy, and doctors should be given full participation in the administration of their own profession, subject to safeguarding the communal interests.

Doctors would not become civil servants. Indeed, one of the advantages of the scheme was that it did not create an additional civil servant. Nor did it impose any constitutional disability upon anyone. Indeed, by taking the hospitals from the local authorities and putting them under the regional boards, many people would be enfranchised who were now disfranchised from participation in local government. So far from this being a huge bureaucracy, with all the doctors little civil servants and the slaves of the Minister of Health, the doctors were under contract with bodies, not under the local authority, which were open to their own influence and control.

At the moment the distribution of doctors throughout the country was most uneven. In South Shields before the war there were 4100 people to each doctor; in Bath 1590; in Dartford nearly 3000; in Bromley 1620; in Swindon 3100; in Hastings under 1200. If the health services were to be carried out there must be a redistribution of general practitioners, and one of the first consequences of redistribution was the abolition of the sale and purchase of practices. If doctors were to be available where they were needed, a new doctor could not be allowed to go in because he had bought somebody's practice. Every argument advanced about the value of the practice was itself an argument against freedom of choice, because the assumption underlying the high value of the practice was that the patient passed from the old doctor to the new. Mr. Bevan had never admitted the legal claim of the doctors to compensation, but he did admit that great hardship would be inflicted if there was no compensation, and he thought it would be most unjust if no compensation were paid for the value of the practices destroyed. The sum of £66 million was large, and everyone would admit that the doctors were being treated generously. But if the Government provided superannuation and

gave credit for back service, it would cost £35 million. Furthermore, payment would be made to the dependants when the doctor died, or when he retired, and so it was spread over a number of years. The profession itself would be asked to advise as to the distribution of the total sum.

Some doctors claimed that the scheme meant direction, but no direction was really involved. All the doctors in an area would be entitled to enter the public service in that area. A new doctor's application to set up in practice in an area would be referred to the Medical Practices Committee, a mainly professional body, and if it were held that already there were sufficient doctors there, the application would be refused. By negative control over the number of doctors they hoped to bring about a positive control over the medical services all over the country. A new doctor would have to find his practice in a place inadequately served.

REMUNERATION

At the moment he could not announce the rates of remuneration, but he could deal with some of the underlying principles. He was not himself in favour of a full salary scale. He did not believe the medical profession was ripe for it. There must be some reward for zeal and some punishment for lack of it. Therefore it was proposed that capitation should remain the main source of remuneration, but there would be a basic salary. The young doctor needed to be kept alive while he was building up his lists. The basic salary could be increased in unattractive areas, and could also be the means of offering additional remuneration for special acquirements. The basic salary must not be too much, however, or it might become a disguised form of capitation.

The general practitioner would still be able to obtain fees, though not from patients on his own or his partner's lists. It would be impracticable to prevent doctors from taking private patients, and the attempt might lead to a black market. And there ought to be no bar to anyone having advice from another doctor rather than his own. He could have the consultation and pay the fee. If he found the second doctor was better than his own he could transfer to him, because it would be unreasonable to continue paying fees to a doctor whose services could be had free. Mr. Bevan thought however that the amount of fee-paying on the part of the general population would be small. Indeed, he confessed that, if the amount of fee-paying was large, the system would have broken down. Specialists in the hospitals would also be able to have fee-paying patients. He knew these concessions were criticised, and he sympathised with some of the reasons. But unless they permitted some fee-paying patients in the public hospitals there would be a rash of nursing-homes all over the country. Some people wished to pay for additional amenities, like privacy in a single ward. They must aim at providing privacy for everybody, but that must wait till additional hospitals were ready. Further, they would risk losing many specialists from the hospitals who would go to nursing-homes, and he thought nursing-homes ought to be discouraged.

HEALTH CENTRES

The health centres, said Mr. Bevan, were important; for to the extent the general practitioner could operate through health centres in his own practice, to that extent the general standard of the profession would be raised. Apparatus not available in the doctor's own surgery would be in the centre, and the maternity and child-welfare clinics for the local authorities might also be housed there. The provision of health centres was a duty imposed on local authorities. Some criticised the proposals as involving trichotomy between the regional board, the local authority, and the health centre; but they could not take all the health services from the local authorities because there were many immediate and personal services which the local authority could do better than anyone else. There would be large health centres with a dental clinic, maternity and child-welfare services, and general-practitioner consultative services, and smaller centres where the general practitioners could see their patients, because it was necessary to have centres near the homes of the patients. He admitted that it would be some time before they could get health centres all over the country, owing to the absence of facilities. Some thought that the preventive services ought to be under the same authority as the curative services, but were housing, sanitation, water drainage, and food inspection to be placed under the regional boards? Such a regional board would need to meet in the Albert Hall. There must be some frontier at which the local authority joined the public-health service. Day was joined to night by twilight, but nobody suggested that this was a contradiction in Nature.

It was also suggested that because maternity and child-welfare services came under the local authority, and gynæcological services came under the regional board, that would make for confusion, but why should it? Continuity was maintained by the user.

AMENDMENTS

Replying to the Liberal amendment, Mr. Bevan confessed himself astonished that Sir Henry Morris-Jones and his friends were

> "unable to agree to a measure containing such far-reaching proposals embodying the entire population without any consultation having taken place between the Minister and the organisations and bodies representing those who will be responsible for carrying out its provisions. . . ."

He pointed out that he had met the medical profession, the dental profession, pharmacists, nurses and midwives, voluntary hospitals, local authorities, eye services, medical aid services, herbalists, insurance committees, and other organisations. He had had 20 conferences, and his officials had had 13 conferences, with different branches of the profession. The real criticism was that he had not conducted negotiations. If there was one thing that would spell the death of the House of Commons it would be for a Minister to negotiate Bills before they were presented to the House. By previous negotiation a Minister put himself into an impossible position, "because if he has agreed things with somebody outside he is bound to resist amendments from members in the House. I protested bitterly against this when I was a private Member, and I am not prepared, strange though it may seem, to do something as a Minister which I thought was wrong as a private Member. So there has not been negotiation, and there will not be negotiation, in this matter. The House of Commons is supreme, and the House of Commons must assert its supremacy and not allow itself to be dictated to by any body, no matter how powerful and how strong it may be."

The consultations he had referred to had produced quite a considerable amount of agreement. The opposition to the Bill was not as strong as it was thought it would be. On the contrary, there was considerable support for the measure among the doctors. He had been rather aggrieved by some of the statements which had been made. They had misrepresented the proposals to a very large extent, but as these proposals became known to the medical profession they would appreciate them, because nothing should please a good doctor more than to realise that in future neither he nor his patient would have any financial anxiety arising out of illness.

The main Opposition amendment expressed indignation at the extent to which the Bill interfered with charitable endowments, but Mr. Bevan affirmed that he had found good precedents and asked whether the

intelligent planning of the modern world must be prevented by the endowments of the dead. The teaching hospitals were to be left free with all their liquid endowments and with more power. Something like £32 million belonging to the voluntary hospitals was to be used as a shock-absorber between the Treasury, the Central Government, and the hospital administration. He was prepared to consider whether other relaxations of the scheme were possible.

The whole scheme, he ended, would place this country in the forefront of all countries in the world in medical services, and would be a great contribution towards the well-being of the common people of Great Britain.

First Day's Discussion

Mr. RICHARD LAW in opening the debate said that the proposals were feared and distrusted by the great majority of those who would be called upon to make them effective. The British Hospitals Association, the British Medical Association, and the British Dental Association were opposed to the Bill, and the three Royal Colleges had criticised it with varying emphasis. The Royal College of Surgeons had passed a resolution condemning aspects of the proposals in the most categorical terms. The powerful advocacy of its president, Lord Moran, had been unable to influence the Royal College of Physicians to give support to the proposals for taking over the voluntary hospitals. The Royal College of Obstetricians, Mr. Law continued, had said that the Minister's proposals were likely to lead to a great increase in maternal mortality. When pressed for chapter and verse, Mr. Law withdrew this statement and read the following paragraph from a report (which Dr. Morgan was happily able to lend him) recording the college's conviction

> "that the care of the pregnant woman, whether at home, in the clinic, or in hospital, is a responsibility which cannot be discharged with the maximum safety to the two lives at stake if it is shared between different administrative bodies."

The Opposition, he continued, accepted the principle of a national comprehensive 100% service and the consequences which flowed from that acceptance, including a greater degree of coördination than before. But they believed that the Minister could have established a health service equally comprehensive, better coördinated, and more efficient if he had not been determined to sweep away the voluntary hospitals, to remove the municipal hospitals from the local authorities, and to impose on the medical profession a discipline unsuited to the practice of medicine. Admittedly the present hospital service was inadequate and badly distributed, but surely the reason for this inadequacy was lack of money. Once the community accepted the principle that it would pay for the service, the inadequacy would disappear. Mr. Law urged that the regional board should be not a controlling and administrative board but a planning board leaving the hospitals, whether voluntary or municipal, to carry out the plan.

For the doctor to receive part of his salary as a fixed payment from the State was the first step to a full-time medical service. Indeed, Mr. Law pointed out, the Socialist Medical Association had stated that the present proposals in regard to payment fell short of the policy they advocated, and they still insisted that "the best service, the perfect doctor-patient relationship, and the highest form of team-work, will be possible only when the service becomes one employing whole-time salaried officers." Mr. Law urged that it was better that the material prospects of the doctor should depend upon the impression he made on his patients rather than on the impression he made on his administrative superiors. The bad effects of the Bill might not be seen for 15 or 20 years, and by then it would be too late to do anything. If the House passed the Bill they would be taking a step from which there could be no going back.

In a maiden speech Dr. L. COMYNS thought that much of the adverse criticism by the profession was based on lack of information or on wrong information. He regretted that the leadership of the profession had failed to keep abreast of public opinion.

Speaking anatomically, Dr. R. CLITHEROW described the Bill as a skeleton. The master brain controlling the nervous system was in place in the skull well protected by the hard bony majority possessed in the House; the nerve tracks were in position to move the future muscles and covering, to be supplied at a later date by regulations; the intestines were ready to accept, digest and absorb, or reject whatever might be offered. He urged the Minister to provide a full maternity hospital service for those who desired it, with clinics controlled by the obstetrical hospital team, leaving the domiciliary cases for the local authority to control and to provide with a midwife nursing service.

Mr. R. SARGOOD asked the Minister, before he finally decided on the form of a regional board for London, to consult the representatives of the London municipalities. Arrangements that might be straightforward in other areas might not be applicable to London. He suggested the setting up of an organisation for the bulk purchasing of supplies for the hospital services. The continuance of mental institutions run for private profit was surely as deplorable as private nursing-homes, and he urged the Minister to find a better way of safeguarding the liberty of the subject than by continuing the Board of Control.

Miss A. BACON welcomed the Bill as giving to thousands of people freedom to consult a doctor or specialist without thinking of the cost. She feared that the proposals for paying patients would go further than the provision of privacy, and that it might be easier, as it was today, to enter a hospital as a paying patient than through the normal channels. Though the number of public patients a doctor could accept was limited, there seemed to be no limit to the number of his private patients, and she feared this might be open to abuse. In a State theatre the seats might have different prices, but we could not afford to have any second-rate seats in an operating-theatre. It would be doing doctors a disservice, she thought, to say that all of them opposed the Bill. The Leeds branch of the B.M.A. had supported nearly all the proposals in the Bill, including those on the sale and purchase of practices, the public ownership of hospitals, and their organisation on the regional basis. Leeds, she believed, was regarded as one of the black spots of the B.M.A., which was perhaps discovering that it had more black spots than was thought.

Sir JOHN GRAHAM KERR, F.R.S., speaking as a teacher, pointed out that the future of any medical service depended upon the quality of the recruits to the profession and the perfection of the training. No doubt some students were attracted by the high ideal of ministering to the sick, but the ordinary student was attracted by the glamour of the prizes open to him—comparative wealth and dignity, and the possibility of high honour. These young men would not be attracted by the principle of safety first, and salaries, and promotion by age.

Mr. A. W. J. GREENWOOD contended that the human atmosphere of a hospital depended upon the personality of the medical and nursing professions and not on its ownership.

Sir RALPH GLYNN, though he disliked various things in the Bill, believed that they were all points capable of moderation or adjustment. The remarks of the Minister had fortified him, for he thought Mr. Bevan had spoken with a great sense of responsibility. Party views, Sir Ralph held, should not be brought into a matter of this kind where we stood at the crossroads of something which was far more serious than any party

question. If ever there was a case where there should be coöperation between people for the good of the country it was in regard to the health of the people.

In welcoming the unification of hospitals, Dr. H. B. MORGAN urged the claims of special hospitals such as the Quakers' Retreat at York. He had heard that the Royal Masonic Hospital was prepared to turn itself into a nursing-home rather than be included in the scheme. Would the Ministry of Pensions' hospitals be taken over? He regretted that industrial medicine had been left out of the Bill. Dr. Morgan admitted that no man worth his salt, trained in true medicine, could but feel deeply when his profession was involved, but he saw nothing in the Bill that would disturb the great relationship between the profession and the public. When he heard the petty criticisms made by some of his colleagues he realised that some of his profession were so keen about their work, their livelihood, and their economic interests that they wanted to see the problem not through a telescope but through a microscope. So far no Government medical service had been a success, but he pictured the new medical services working on different lines. With democratic regulations, consultative committees, a good Minister, good administration, and a good department we could build a fine service which would redound to our credit down the ages.

Broadly speaking, Mr. F. MESSER thought there were two types of social service. The mechanistic—such as water and electricity—affected people in the mass, and provided they were efficient it did not matter who administered them. But the human social services, such as education and health, affected the individual, and there, not only what was done mattered, but also how it was done. The Minister had in effect said, "I am the final arbitrator in deciding who shall man every stage of the administration." The national health service council would be the advisory and planning body, and Mr. Messer thought it right the Minister should choose his advisers. But on the lower level of the regional board surely there was something to be said for a representative body. Why this loss of faith in the elective principle? On the whole Mr. Messer gave the Bill his blessing, with the qualification that it could be better, and by the time the final stages were reached he hoped it would be better.

Second Round

For those who believed in nationalisation, Sir HENRY MORRIS-JONES, M.R.C.S., thought the Bill was a good one, but he himself believed that no industry, and certainly no profession, was improved by it. It was unfortunate that the Spens report was not yet available, because no-one knew the terms of service on which practitioners would have to work under this Bill. The Minister had laid more emphasis on capitation than on salaries, and Sir Henry urged him to drop the salary proposal altogether. The suggestion of a diminishing capitation fee made in the white-paper was dangerous, for people who came in under the lower figure would be a separate category from the main body of the doctor's patients, and might be considered small capitationists. The Minister, Sir Henry insisted, was also wrong on the sale of practices. A medical man, like any other professional man, had a right to sell his practice, which was the fruit of his endeavour and represented the goodwill which he had built up. Nobody could quarrel with the amount of compensation offered, but the doctors were against compensation altogether. They preferred to retain their practice asset. Compensation would in a sense be a forced loan, for though the doctor would receive interest on the money for the rest of his life, or until he retired, he had no control over his own capital.

The Minister's figures on the distribution of doctors were fallacious. Sir H. Morris-Jones thought on the whole it was fair. When all was said and done there was a law of supply and demand. In conclusion he expressed misgivings about the Government's proposal to take over sickness as a national matter. He was afraid of the dull uniformity which ran through the whole of this scheme. It might very possibly become a utility scheme, under which doctors would treat and cure less and less, while signing and certifying more and more. Everyone agreed with the aim of the Bill, to bring about a comprehensive health service, and if Mr. Bevan would accept amendments to do away with this diabolical direction of doctors, to give those who had to work the scheme a greater share in its administration, to encourage more interest in voluntary and local hospitals, by allowing them greater control over their finances with less central direction, and if he could create a general-practitioner service comprising people who would work happily and with enthusiasm, then even this Bill might be made workable.

A MINISTRY SPOKESMAN

In his speech Mr. C. W. KEY, parliamentary secretary to the Ministry of Health, asserted that no efficient hospital service could be provided if the units had the power to determine their own functions within a so-called system, or to decide the extent to which they would participate. The Government were not standing for the claim that while it was right to conscript the labour and lives of men in a war against evil abroad it was wrong to conscript buildings and institutions in a war against disease at home. He denied that the proposals of the Bill would destroy the local spirit, the local character, and the local interest in hospital services. Every hospital or group of hospitals would have its own committee of management, not black-hearted black-hatted bureaucrats from Whitehall, but appointed by the regional board of the area after consultation with a number of local authorities, including the local health authority, the local executive committee in charge of the practitioner service, the existing voluntary hospitals, and the senior professional staff in the hospitals themselves. Could there be a more local body than that? The present local-government administrative machine, Mr. Key was sure, could not provide a properly planned and administered hospital service, for it had not kept pace with developments in communications and transport.

General practitioners, Mr. Key contended, were free to choose the form, place, and type of work which they preferred, and would remain so. That some control of the distribution of doctors must be established was obvious. The B.M.A. claim that every registered medical practitioner should be entitled as a right to participate in the public service was impossible and impertinent. No class of public servants had that right. The interests of the community demanded that the distribution of medical services should be organised in accordance with the needs of patients and not the whims of practitioners as the guiding factor. No-one wished to destroy the freedom to choose and change a doctor, and in so far as freedom of choice existed it would go on. But for many people that freedom had never existed, and we had to ensure that what in actual experience was largely a pretence was not used to frustrate the foundation of a real medical service. The fundamental relationship between doctor and patient would remain what it was now, with the great difference that patients would not pay fees for attention. The resources of the community would be pooled and doctors would be paid for general care irrespective of individual needs.

As to the sale of medical practices, Mr. Key asked if this was right for doctors why should it not also be right for others whose incomes were guaranteed from national funds, such as medical officers of health, school teachers, health visitors, and sanitary inspectors? The number of doctors on which compensation was based

was 17,900. The Government had not proposed to make the medical service a salaried service because the medical profession was not yet ripe for such a service; the secretary of the B.M.A. in a letter to the *Times* on April 17 had said that a salaried medical service "might tend to replace competition for patients by competition to avoid them." A more important reason was that a full-salaried service was inconsistent with the free choice of doctor to which the Government had agreed, for it would make inevitable the compulsory allocation of work, that is, distribution of patients among doctors. Therefore they had put forward the compromise of part basic salary and part capitation fee. He saw no reason why, with good will on both sides, they should not be able to settle the general rate of remuneration when the Spens report was issued.

Doctors would not be allowed to charge fees to patients on their own lists, but a patient who wanted the opinion of another general practitioner—not, of course, a specialist who is available within the service without charge—would have to pay for it. Dealing with private patients and pay-beds in hospitals, Mr. Key said that the Government felt that to prohibit private practice to doctors joining the National Health Service would only, at any rate to begin with, keep out of the service many good doctors who would otherwise have joined. It was objected that the Government were making special provision in hospitals for privileged patients who could afford to pay for private accommodation, a practice alien to a real public social service. But he could assure the House that if any patients on medical grounds needed special privacy, such accommodation whenever available would be provided free of cost as part of the normal service. But when private rooms were available and were not needed on priority medical grounds it was proposed that they should be open to people who were willing to pay for this extra amenity. At present specialists' work, particularly in voluntary hospitals, was usually honorary and naturally they grouped themselves in areas where paying private practice predominated. Apart from their private practice advice and treatment from them could be obtained only at certain hospitals—all too limited in number—and it was practically impossible to get the specialists into the patient's home. The Government wanted the specialists to assist in their hospital services widely over the country, but they must prevent specialists who were giving part-time to the services from putting in a minimum routine attendance at the hospitals and then rushing off to deal with their private cases in a private nursing-home. They wanted to encourage the specialists to regard the hospitals more and more as their professional bases and for that reason they were certain that it would be best—on the distinct understanding that the needs of the ordinary service were fully met—to allow specialists to bring in some of their private work to pay-bed blocks.

The Bill placed no obligation on any doctor. He might stay outside the service, or he might come in with his present practice. He was free to refuse any patient, for not only did the patient choose his doctor but the doctor chose his patient. It increased the responsibilities of the local authorities, for their optional powers to provide care for mothers and young children, health visitor and home-nursing services, ambulances, and health centres all became duties. He was convinced that it would do more than any other measure to lift a load of care and worry from our people.

THE FORMER INCUMBENT

Mr. H. WILLINK, the late Minister of Health, on behalf of the main Opposition moved the following amendment:

> "That this House, while wishing to establish a comprehensive health service, declines to give a second reading to a Bill which prejudices the patient's right to an independent family doctor; which retards the development of the hospital services by destroying local ownership, and gravely menaces all charitable foundations by diverting to purposes other than those intended by the donors the trust funds of the voluntary hospitals; and which weakens the responsibility of local authorities without planning the health services as a whole."

Health, he agreed, was not a matter for political controversy, if it could be avoided, but with the Labour Party's declared view, that "it is necessary that the medical profession should be organised as a national, full-time, salaried, pensionable service" the Opposition were in total disagreement. Was it, he asked, still the policy of the Labour Party? Socialist Ministers—his colleagues and seniors in the Coalition Government—had in the white-paper declared their abhorrence of this principle, and affirmed that the sense of personal association associated with family doctoring must be preserved. Yet Mr. Willink thought it was endangered by this Bill. The Coalition Government in the white-paper had said that it was not their wish to destroy or diminish the voluntary hospital system. What was this baleful influence of the Minister of Health which had overthrown those more experienced opinions? When the Minister sent for representatives of the voluntary hospitals did he in fact say to them: "I am not prepared to discuss the extinction of the voluntary hospital system"? If so, it seemed a monstrous way of treating bodies which had been promised that they should survive in undiminished vigour. The same attitude was adopted with representatives of the medical profession and the local authorities.

Personal health services, he held, should be planned over areas far smaller than Mr. Bevan's regions; such areas could have a life of their own, and yet have the full help of the universities. The non-elective regional boards seemed to him regionalism at its very worst. The men they wanted to plan and guide a service would have neither the time nor the inclination to administer a huge organisation stretching perhaps from Bristol to Lands End. Objecting to the pooling of endowments he pointed out that with a developing service there would be use for them everywhere. The unevenness of finance in different counties could, as in the Education Act, be met by varied contributions from central funds.

Examining part IV of the Bill Mr. Willink said that apparently regulations could be made introducing a full-time salaried service. He was unimpressed by Mr. Bevan's examples of so-called "over-doctored" places and he was sure that the risk of maldistribution was not sufficiently great to justify setting up this most unsatisfactory machinery with a large addition to the criminal law and an expenditure of £66 million. He was surprised that the Minister could put forward the idea of a central Medical Practices Committee with a serious face. Would the five doctors remain in "active general practice" for long if they were to decide the succession to every practice? Dr. HADEN GUEST interposed that the decisions of the Central Medical War Committee were made in that way, but Mr. WILLINK disputed the comparison, saying the C.M.W.C. had done its work with 145 local committees. The Medical Practices Committee would need a staff of 40 or 50 civil servants after the scheme had been started. Mr. BEVAN pointed out that the number of doctors to be appointed would be under 1000 a year. In fact the local executive committee would appoint them, and they would be referred to the Medical Practices Committee solely on the ground as to whether the particular area was under-doctored or over-doctored.

In conclusion Mr. WILLINK said that the fundamental objection to the general practitioner set-up lay in the matter of salaries. He had never heard more flimsy reasons for something which the Minister knew was obnoxious to the medical profession than the three

which Mr. Bevan had given for this basic part-time salary. There was no reason why the profession should become part-salaried except as a concession to Socialist doctrine.

Points of View

Mr. CLEMENT DAVIES was surprised that no reference had been made to the fact that Wales already had experience of a regional board. The National Memorial of Wales, now a Government institution, was the envy of all the English counties, and more research had been done under it than anywhere else. It was financed partly by the Government and partly by the county councils, but that had not prevented the people from making contributions to the local sanatoriums.

Mr. A. L. UNGOED-THOMAS regretted that the private-fee system had been allowed to remain. There was scriptural authority for winking at minor transgressions. This, however, was not winking, but Willinking.

Mrs. F. K. CORBET, in a maiden speech, said that the London County Council had given up their system of hospital services only because of their enormous desire for a comprehensive health system throughout the country.

Mr. SOMERVILLE HASTINGS, F.R.C.S., pointed out that the Bill could not be looked at in isolation. It was part of a broad scheme for ironing out some of the uncertainties and inequalities of life. One of the main claims on the new National Insurance Fund would probably be for sickness, so it was up to the Minister to do all he could to prevent and cure sickness. Contributions everywhere were to be equal, and it followed that the Minister must provide everywhere an equally good service. The only alternative to taking over the hospitals was to try to control them by monetary grants, but Mr. Hastings doubted if a powerful authority or a well-endowed institution could be induced to toe the line by the withdrawal of a grant. His experience with the L.C.C. had shown him the advantages of hospital unification. Supplies could be purchased in bulk, equipment standardised, patients and staff easily transferred in an emergency, and opportunities for specialisation and research widened by the segregation of patients. The suggestion made in recent letters to the *Times* for granting more power to hospital management committees struck him as dangerous. Anything that would limit the far-sighted planning of the regional hospital boards or the influence of the universities and teaching schools would be a real disaster. He was aware that to secure the right people for the committees they must be given a good deal of power. They must have power to spend a certain amount of money, to make rapid decisions, and to experiment; but their power must be strictly limited. If they had the power to appoint doctors and senior staff they would, he feared, be liable to follow the voluntary hospitals into that inbreeding which had been the curse of the system. He did not see why local interest and pride in a hospital should not be developed under a national system. However good public provision might be there would always be opportunity for voluntary effort and for experiment in social service. A strong case, he thought, could be made for permitting payment for privacy, but payment for treatment was different. Speaking from personal experience he was sure that on the staff of his teaching hospital he and his colleagues did as good an operation for their public as for their private patients. But he was equally sure that they paid more visits to their private patients and left the care of their hospital patients much more to their registrars and house-surgeons, and in so far as the senior staff were more experienced than the juniors he supposed that the patients in the private wards were actually getting better treatment. In any case he was certain that those patients believed that they were getting better treatment. It would be the same in the national hospitals, and he felt that it was most undesirable. Admittedly it was convenient for doctors to have their public and private patients under one roof, but important as the doctors were, the patients were even more important.

Lieut.-Colonel C. H. GAGE thought the diminishing capitation fee wrong in principle. He also opposed the payment of fixed salaries. Instead, to attract doctors to areas of scattered population, could not the capitation fee be raised? A salary was defended as giving security to young men starting in the profession, but surely security was for the old? He had always felt that it was the very insecurity of the profession that attracted the adventurous young man with initiative. Why not retain the purchase and sale of practices and use the compensation money to provide the young man with security when he really needed it, in the form of scholarships before he qualified?

Dr. HADEN GUEST said that the two main provisions of the Bill were a complete hospital service and a personal medical service for people of all ages, insured and uninsured. That was the foundation of a future building which could be extended as our resources and knowledge grew. The recent Hospital Surveys had provided an important body of facts drawn from all over the country on which to base our conclusions instead of general opinions, and the coördinated hospital plan arose from the logic of the facts. Dr. Guest quoted passages from the surveys for London and the south-western area, giving instances of lack of coördination of hospitals, of maldistribution of specialists, and of shortages of beds. In small hospitals failure to keep adequate case-notes was recorded, midwifery accommodation was often unsuitable, and the chronic sick seriously overcrowded. During the war, he pointed out, despite the shortage of doctors and specialists, by coördinating the work of the voluntary and municipal hospitals we had created the Emergency Medical Service which saved us thousands of lives and hundreds of doctors. The Central Medical War Committee—mostly members of the B.M.A.—"and we must say a good word for the B.M.A. sometimes"—was doing valuable work, while the Medical Personnel Priority Committee, of which he was chairman, undertook the general work of allocation. He would like to see a central medical peace committee, and he appealed to the House and to the medical profession to help to coördinate our hospitals not for war casualties but for the casualties from tuberculosis. To add to the attractions of the scheme for men of vigour and adventure Dr. Guest was anxious to make the new service as wide as the British Commonwealth of Nations. Medical officers in the Colonial Medical Service should be interchangeable with medical officers of the national service of this country. Doctors in this country should have the opportunity to visit the Colonies and Dominions and return enriched by their experiences. "We are organising," he ended, "something more than a National Medical Service. It is nothing less than the turning of the knowledge and wisdom and practice of the medical profession, and of all the sciences on which it rests, to the service of our common humanity."

Mr. WILSON HARRIS thought that the lot of the ordinary general practitioner would in many respects be made easier by the Bill and in only a few respects more difficult. Some of the profession's hostility, he suspected, was psychological. In accordance with the traditions of Parliamentary draftsmanship the executive authority of the Bill was invariably referred to as "The Minister"—that meant in effect "the Ministry"—and how much less disturbing it would have been to use the second word, for it was a hard but painful fact that the forceful and occasionally provocative personality of the present incumbent of that office had not evoked from the medical profession

precisely that whole-hearted admiration which he no doubt desired and deserved. It could be understood that an agitated medical practitioner working conscientiously through the Bill and finding on every page a reference to the Minister might exclaim with some vigour "that man again." Speaking as one who was attached to no party he was disappointed that at its second reading this great measure should not have the support of a united House.

Captain J. BAIRD, L.D.S., submitted that it was necessary to bring the voluntary hospitals into the scheme because they were facing bankruptcy and because we could only get efficiency under a new system. He asked for recognition of the dental surgeon's partnership with the doctor in the medical services of the country. Today a dental officer employed by a local authority could usually only approach his medical committee through the senior medical officer.

THE MINISTER'S POWERS

Colonel M. STODDART-SCOTT, M.D., thought that time alone would show whether this Bill was a good one or a bad one. He found it curious that in a measure which coerced the medical profession, the hospitals, and the local authorities the Minister was not prepared to coerce the general public by insisting that vaccination should remain compulsory. Nor had Mr. Bevan accepted the suggestion made again and again by the profession that the Minister of Health should devote his whole time to the health of the community and not spread it over housing and other things. Mr. Bevan had offered no reason for the diminishing capitation fee and Colonel Stoddart-Scott himself did not see why it should be a case of one for a penny and three for twopence. The buying of practices had never been a financial burden round the neck of the young man. The real bottleneck which prevented people from becoming doctors was the cost of medical education. The Bill gave great dictatorial powers to the Minister—greater, he thought, than the Minister either desired or needed. Under clause 43 the Minister could send to any part of the country an unqualified man to practise medicine, and it was possible for the Minister to displace a doctor and send an unqualified man in his place. Again under clause 35 he could prosecute a doctor years after he had left his private practice and come into the State scheme if he sold his house or surgical instruments to another doctor. Under clause 34 (9) even a son who followed his father was precluded from making any financial assistance to his father or mother. Colonel Stoddart-Scott regretted that local health authorities had the statutory duty to set up health centres without some overhead body, such as the regional board, deciding where the centres should be established. Once it became necessary to introduce large weekly National Insurance contributions the 2*d*. and 3*d*. a week of the voluntary hospital system became impossible. But was it necessary because the Government financed a hospital or institution up to 100% for them to own and not just control it?

Sir ERNEST GRAHAM-LITTLE, F.R.C.P., said he had opposed the proposals of the Coalition white-paper, but his opposition to the Bill was stronger. He opposed it because the medical profession, and especially the consultant section for which he was most qualified to speak, were overwhelmingly resistant to it. The nationalisation of hospitals was nowhere mentioned in the programme of any Socialist candidate and the country had given no mandate for this measure. The voluntary hospital was the life of the consultant. It attracted to its service men and women who were deeply interested in the scientific practice of medicine and in research because it offered freedom. With this Bill that freedom would vanish. Nationalisation of hospitals would cause mortal injury to the prosecution of medical research which for the last hundred years had come almost exclusively from the voluntary hospitals. One of the gravest reproaches against the Bill was its ludicrously meagre reference to research. Nine lines in clause 16 dealt with research, while 140 lines in clause 35 were devoted to devising savage punishments for the doctor who wished on his retirement to introduce to his patients a successor to his practice, and who accepted a modest premium for exerting that good will.

Mr. R. R. STOKES asked if the Catholic hospitals could be given the same rights and guarantees under the Bill as the teaching hospitals. They did not resist the supervision of the regional committees but asked that their atmosphere and character might be maintained. Wing-Commander E. R. MILLINGTON reminded the doctors that for the first time they were being offered "participation." In most hospitals they were at present not directly represented on the finance committees; now they would share the responsibility of allocating funds.

Government Reply

In summing up, Mr. ARTHUR GREENWOOD, Lord Privy Seal, declared that Labour policy was never final. It was a developing policy, and as soon as the Bill was on the statute-book the Minister of Health would, in collaboration with the medical profession and with the hospital authorities, establish a partnership to work out in detail how this great measure was to operate in the years to come. He thought many of the speeches of the Opposition an insult to the medical profession. In effect it had been said that unless doctors were allowed to buy and sell practices like hucksters in the market-place, and unless they could retain their private enterprise, they were not going to be good public servants. He did not believe that. It was the Minister's intention before prescribing terms of service or rates of remuneration to use the familiar machinery of discussion and negotiation with employees. Where no such machinery existed he intended to set up some machinery of the Whitley council type behind which there might be provision for agreed reference to arbitration should the Whitley council not be able to carry it out.

Turning to points raised in the debate Mr. Greenwood assured the House that where hospitals had any particular denominational background it was intended to preserve the character of the institution. The Bill provided for the possibility of voluntary nursing associations being used in the home nursing service, and the Minister proposed to discuss their training and supervision with the nursing profession as a separate problem at the earliest opportunity.

Division and Committee Proceedings

The second reading of the Bill was carried by 359 votes to 172. Mr. Churchill's motion that the Bill "be committed to a Committee of the Whole House" was rejected by 344 votes to 180, and the Bill was committed to a standing committee.

Speaking afterwards in committee on the National Health Service (Money) Mr. BEVAN said it was obvious that taking over the hospitals from the local authorities must mean the revision of the block grant, and he would start discussions with the local authorities almost immediately to try to reach a new formula. It had been asked what would happen to the voluntary hospitals in the meantime. One of the inevitable consequences of a measure of this sort was an interregnum between the passing of the Act and the establishment of the new service. He hoped that all those concerned with voluntary hospitals would maintain their exertions. He imagined that weekly contributions would be paid until they were no longer necessary, and he trusted that the contributions of the public would be kept up to enable the services of the voluntary hospitals to be maintained at the highest possible standard.

Medical Conferences

THE PANEL CONFERENCE

NATIONAL HEALTH SERVICE

REPRESENTATIVES of local medical and panel committees met in London on April 30, with Dr. J. A. BROWN (Birmingham) in the chair. With minor modifications they approved the B.M.A. council's report on the National Health Service Bill, presented by Dr. E. A. GREGG, chairman of the Insurance Acts Committee. They also passed a motion approving the establishment of a comprehensive health service for England and Wales.

ADMINISTRATION

Dr. F. M. ROSE gained a large majority for the motion by Preston that in the new service beds should be supplied, either in special wards or in hospital, where general practitioners could undertake the full care of their patients. It was only in recent years, he said, that the hospital had become the domain of the specialist. There was a danger of the general practitioner's field being narrowed to the treatment of lesser ailments and the diagnosis of major ailments. A further motion from Preston—that all hospital boards of management should include representatives of the local general practitioners—was supported, nem. con.

For West Suffolk, Dr. N. STEVENS put a motion calling for liaison between the local executive council and the regional hospitals board. The feeling in his area was against regional authorities, which were more impersonal and less fully aware of the individual difficulties of the individual doctor than local bodies. The motion was carried.

The meeting agreed with Dr. J. A. IRELAND that publication of the reports of the Central Health Services Council should be ensured. Cheshire called for the appointment of medical members of this council, and of the standing advisory committees, and the Medical Practices Committee, by election. Dr. H. GUY DAIN, chairman of the B.M.A. council, pointed out that direct election would cause difficulties alike for the Minister and the profession; nevertheless, the Minister should seek the profession's approval for his appointments. Dr. H. S. HOWIE WOOD agreed with Dr. Dain; but, he added, the Minister should have no power of veto. Dr. W. JOPE sought an assurance that the Minister proposed to consult the B.M.A., rather than other bodies, when seeking agreement on the personnel of committees at all levels. In answer, Dr. DAIN read a letter from the Ministry of Health, stating that the Minister would be willing to discuss the Bill with the Negotiating Committee after the second reading. Dr. JOPE held that this was no reply to his question, and Dr. DAIN admitted that no undertaking had yet been given by the Minister. The Cheshire motion was carried.

The comments on hospital ownership in the B.M.A. council's report were accepted, and a rider was added that the special Representative meeting should be informed that the conference considered it essential that voluntary hospitals should retain control of their property, assets, and invested funds.

HEALTH CENTRES

Dr. A. B. DAVIES, for Staffordshire, Walsall, and Stoke-on-Trent, argued that at the outset health centres must be on an experimental basis only. He had a dark vision of the future with direction, direct or indirect (cries of No!), and of doctors working in premises other than their own, with no control over the nursing or clerical staffs. No diagnostic facilities, he said, had been included in the plans for centres; and there was no provision for other types of opinion. Health centres would simply concentrate the practitioners. Were not doctors liable to be evicted from these publicly-owned premises? If so, where could they turn? It was true that doctors could continue, for the moment, to work in their own surgeries; but this was simply a matter of expediency for the Minister, who could not hope to operate the Bill without the use of them. Where was the doctor to practise after he had been bought out? And what of the freedom of the patient? When a doctor died, his surgery would be closed and patients would be allocated to doctors in health centres.

Dr. Davies was reproved by Dr. DAIN for his "defeatist attitude," which suggested that the B.M.A.'s view would be held in no regard.

Dr. W. LIVINGSTONE suggested that the disadvantages of the proposed centres were that they were to be built, equipped, and staffed by the lay authority; they were to be administered in rigidly demarcated local-authority areas; and the system was a half-way development towards the whole-time State medical service, into which it would be easy to slip.

Dr. A. HAMILTON contended that centres should be established only by agreement with the association in the area.

Dr. A. BEAUCHAMP suggested that centres should be first developed in congested areas, thus helping to attract doctors to districts where they otherwise preferred not to practise.

Dr. A. TALBOT ROGERS spoke in favour of health centres. Shortage of labour and material would automatically limit construction; what he feared was that no centres whatever would be built for a time, and that when conditions became easier the Minister might call for their wholesale construction without proper experiment. Prototypes, he claimed, should be erected now.

Dr. D. L. S. JOHNSTON saw danger in the ownership of centres by local authorities; the profession should establish experimental health centres on its own initiative. Under the terms of the Bill, the doctor would be worse off, since he would be running two concerns—one at his own surgery and the other at the centre.

Dr. H. H. D. SUTHERLAND suggested that the B.M.A. might construct health centres, to include pathology, radiology, and physiotherapy departments. A vote was taken, and Dr. Davies's motion was carried.

BUYING AND SELLING OF PRACTICES

Dr. GORDON WARD found the Minister's offer for the purchase of practices tempting, especially as, in a few years, there might be no buyers. Dr. DAIN indicated there there would be ample time to decide about the disposal of practices between the enactment of the Bill, at the end of the current session, and its implementation at the beginning of 1948. £66 million had been offered in compensation, but this would not be paid in cash, since it was officially considered that the sudden release of this sum would disturb the country's economy. Claims by those who had borrowed money for the purchase of practices would be considered, but otherwise the money would be forthcoming only on death or retirement; until then interest at the rate of 2½% would be paid.

Dr. J. A. PRIDHAM pleaded for the large view; doctors should not consider themselves individually. Dr. S. WAND suggested that Dr. Ward valued his liberty less than the Barbarians of the North, who were willing to lay down their lives rather than loose their freedom. A Scots representative intervened to inquire the scope of "North" in relation to Barbarian, but Dr. Wand stood his ground—North Britain was not excluded. Dr. ROSE took liberties with architecture in his suggestion that this plan for compensation, together with direction and payment by basic salary, formed the three legs to the tripod which supported the concrete foundation of the Government's proposals for a salaried service; all three provisions could be met by other methods.

Dr. LIVINGSTONE, voicing for Staffordshire, Walsall, and Stoke-on-Trent a motion that there should be no interference with the buying and selling of practices, saw indecision and disunity as the dangers to the profession. Politicians, it was said, considered the opinions of the present generation, whereas statesmen had regard only for the future. Doctors must be medical statesmen, and unite behind the Negotiating Committee. Other speakers called for unity and the defence of freedom. The motion was carried without dissent.

From Kent came a resolution deprecating the clauses in the Bill dealing with the sale of goodwill, and the savage and misdirected penalties for their infringement. Dr. C. M. STEVENSON said that the Bill offered no facilities for assistants or partners; the aim was apparently to drive everyone into the health centres. Opportunities for group practice outside the centre were needed, especially in rural areas. The motion was carried unanimously.

Dr. C. P. PORTER proposed a Worcestershire motion that doctors should have the option of joining the service within six months after the appointed day, without loss. Nothing, he said, was yet known of the conditions of service; the profession might be jockeyed into a difficult position and be unfairly penalised. The meeting passed to the next business without a vote.

Reading won approval for a motion that the introduction of a comprehensive service in 1948 would be premature owing to lack of personnel and buildings. Dr. F. E. GOULD suggested that surgery accommodation, already insufficient, would be still more inadequate with a 100% service; doctors could not be expected to improve their surgeries if, when the time came, their houses were to be sold as purely private buildings.

DISTRIBUTION AND REMUNERATION OF PRACTITIONERS

A motion by Dr. R. W. RAE (Staffordshire) that there should be no direction of a practitioner regarding the area in which he was to practise was carried unanimously.

Dr. J. BECK, for Glasgow, advanced a motion that payment should be by capitation fees only. He suggested that payment by large capitation fees and a small basic salary was the thin end of the wedge at whose other extremity lay basic salary only. The motion was carried with one dissentient. A further motion, this time from Staffordshire, that payment should be by standard capitation fees won unanimous approval.

From Kent came the proposal that doctors might be given the choice of payment either by salary or capitation fees. This evoked an impassioned reply from Dr. BECK, who held that doctors must be inspired by capitation fees. The motion was rejected by an overwhelming majority.

PRINCIPLES

Sheffield submitted that the Bill should ensure that a person who chose to be a private patient of a practitioner should not thereby deprive himself of hospital, consultant, and other benefits in the scheme; and that the certificates of such a practitioner should be valid for all purposes. The meeting unanimously agreed.

It also accepted unanimously a Midlands motion that the Bill infringed the seven principles laid down by the Negotiating Committee, which principles the meeting approved. The representatives believed that the Bill, in its present form, would inevitably lead to a whole-time salaried service, and decided to support the B.M.A. in any action it might take to secure the necessary amendment.

APPEAL TO THE COURTS

The meeting agreed to a Kent motion that the proposed disciplinary tribunal was unsatisfactory so long as there was no appeal from its decisions to the courts of law. Among the points made by speakers were the inadequate medical representation on the tribunals, which are to include only one doctor, and the denial of ordinary civil rights by the failure to provide for appeal in the courts against the Minister's decisions.

The conference also agreed to regard as unacceptable any regulations or contracts for service which did not provide, in case of dispute between the profession and the Minister, an ultimate right of appeal to the courts.

PENSIONS

Dr. H. W. POOLER (Derbyshire) spoke for senior practitioners, who, he suggested, might suffer hardship if compulsorily retired. Dr. GREGG said that this had no place in relation to the day's business, and the conference proceeded to consider a last-minute motion that the B.M.A. should frame an alternative service to that of the Government, for presentation to the public. This also failed.

B.M.A. GUARANTEE FUND

After discussion the conference decided to recommend the trustees of the National Insurance Defence Fund to double its guarantee of £100,000 to the B.M.A. Guarantee Fund.

BRITISH MEDICAL ASSOCIATION

SPECIAL REPRESENTATIVE MEETING

THE association's representatives met at B.M.A. House on May 1 and 2 to consider the council's report and statement of policy on the National Health Service Bill, Dr. J. B. MILLER being in the chair. Dr. J. HUNTER, of New South Wales, brought a message of encouragement to the association in its fight for professional freedom.

Before the meeting got down to business it spent some time considering a suggestion by Dr. W. N. LEAK (Mid-Cheshire) that the resolutions dealing with the general attitude of doctors to the Bill should be taken first, so that Parliament and public would be left no longer in doubt. Whether by accident or design, he said, the Government had opened the second reading of the Bill before the representatives had completed their discussions, and the press were still saying that the profession was in general agreement with the Bill. Dr. Leak's suggestion had its supporters, but Dr. PETER MACDONALD, the immediate past-chairman, called it a waste of time, and it was decided that Parliament, public, and press would not suffer if left uncertain about the attitude of the representatives until 11 A.M. next day.

Dr. J. A. BROWN (Birmingham) having reported that the Panel Conference held the day before, representing 18,000 general practitioners, was solidly behind the council, Dr. H. GUY DAIN (Birmingham; chairman of council) moved that the council's report be approved. The Bill, he said, proposed to set up three separate services which the Minister pretended would work together. It put the Minister in the position of a complete dictator (applause); 29 clauses gave him power to alter its provisions at will. It gave the Minister a hospital monopoly, so that he could suppress any new hospital starting outside the service. It would do away with trusts set up by benefactors now dead. Abolition of the sale of practices would make all existing partnerships and mutual agreements void, and though the Minister had for years been preaching the advantages of group practice the Bill set up such savage penalties that no-one would dare to make new mutual agreements. Whatever might have been the views of doctors when they answered the questionary circulated in 1944, very few would vote for payment by salary now that its implications were realised. The Minister had said that he had no intention of making doctors civil servants; but if he paid them by salary there would be very little difference. It was up to the profession to see that they could not be made civil servants. The association did not expect to influence

Parliament in any way—with the Government's strong majority the Bill was certain to pass—but the council were preparing amendments to be presented at the committee stage of the Bill. Success depended on the solidarity of the profession and the influence of patients on M.P.s. The Bill might become an Act this summer or autumn, and Jan. 1, 1948, was suggested as the "appointed day." In that interval the association must take its share in preparing regulations for working the Act. Then doctors would be asked to decide individually whether they were willing to serve in the scheme set out in the Act plus regulations. The council would be meeting the Minister next week, and would tell him: "You want a good service; we want a good service. You want doctors; we have the doctors."

When the applause had died down the representatives embarked on the hundred-odd amendments to Dr. Dain's motion, starting with part A of the council's report, the Seven Principles of the Profession.

Dr. J. A. GORSKY (Westminster), in the first and last attempt at oratory in the meeting (thereafter speeches were limited to 10, 5, and ultimately 3 minutes), emphasised the importance of free choice as laid down in principle III. Not only should the citizen be able to obtain his medical care privately but the arrangement should not be such as to penalise him or his doctor if he did. Facilities should be provided in hospitals for treatment by private practitioners and specialists. Under clause 71 of the Bill the Minister could act without the agreement of Parliament—a contravention of the spirit of the British constitution which must inevitably lead to dictatorship. The Minister was trying to divide the profession. Specialists, a class which the Minister had not defined, would retain the legal right of all citizens to appeal to the courts, whereas general practitioners would lose that right.

Having agreed to a suggestion from Aldershot that pay and conditions of service must be good enough to maintain the status of the profession and encourage recruits, the meeting took Dr. Dain's tip and left the principles alone.

Turning to part B of the council's report, the representatives agreed, without argument, to amend its first paragraph to read:

> The Profession, while anxious and willing to coöperate with the Government in evolving a complete Health Service, is opposed on grounds of public interest to certain important features of the Government's proposals which render the Bill, in its present form, not only unacceptable to the Profession, but also constitute strong reasons for advising the Public against its acceptance.

FACILITIES FOR GENERAL PRACTITIONERS

Dr. J. M. CHRISTIE (Finchley) lamented the lack of any reference in the Bill to better diagnostic facilities, such as X rays and clinical pathology, for the general practitioner. Doctors were fearing that instead of getting more facilities of this kind they would get more forms to fill up. General practitioners should stake their claims now, and stake them high, or they might find themselves in a subsidiary position. This was agreed, as was the need for general practitioners to have ready access to ancillary services, such as massage and electrotherapy, and for a coördinated pathological service on a regional basis.

Dr. W. G. MURRAY-BROWNE (Gloucestershire) urged, and the meeting assented without much enthusiasm, that the family doctor should have the right to assume personal responsibility in hospital for patients which came within his scope, so being a respected member of a team rather than a mere signpost to the various departments.

REGIONAL OR LOCAL?

Dr. F. M. ROSE (Preston) favoured the Bill's form of local administration for general practitioners and regional administration for hospitals, an arrangement which the council sternly criticised. In his view the local committee system had worked well under N.H.I., and general practitioners should continue to be controlled locally. Dr. W. D. STEEL (Worcester) agreed, provided there was close liaison between the two; he did not like to think of doctors in Hereford being controlled from Birmingham, 50 miles away. Sixteen or twenty regions in the country could control hospitals very well, but would leave the G.P. in the air.

Dr. R. W. COCKSHUT (Hendon), however, would keep as far away from local authorities as possible; only at regional level was coördination possible. Moreover, he said, it would be a mistake at this meeting to pass any motion which approved of any sections of the Bill—a view which Dr. ROSE called pernicious nonsense. The meeting, said Dr. Rose, should approve of the good parts of the Bill and apply its efforts to condemning the bad parts. Dr. Rose then embarked on a short but sharp contest in repartee with Mr. LAWRENCE ABEL, the score being left at 2 cracks to 1 in Dr. Rose's favour.

Hastings and West Suffolk declared, more or less, for the Prestonites and local administration for G.P.s, whereas Furness and Liverpool preferred the Hendonian slogan of regional administration for all, and the Isle of Wight was for an all-regional plan everywhere except, perhaps, in the Isle of Wight; Worcester cautiously decided to wait until it knew what the regional hospital boards consisted of before making up its mind, and Finchley persuaded the meeting that the R.H.B.s should be called regional boards, since they dealt with other things besides hospitals. The meeting showed itself pretty solidly in agreement with the council in their preference for the regional principle.

CENTRAL ADVISORY MACHINERY

The meeting then turned to criticisms of the Central Health Services Council.

The first schedule to the Bill lays down that this council will consist of 6 ex-officio members and 35 others, of whom 15 will be doctors and the remainder persons with experience of hospital management, local government, or mental health services, dentists, nurses, a midwife, and pharmacists; the 35 will be appointed by the Minister after consultation with organisations that he recognises as representative of those persons. Mr. TUDOR THOMAS (Cardiff) wanted it made clear that the appointments would be made not only after consultation but also in agreement with the representative organisations concerned, and that this should be the principle of appointments to the other advisory committees. Mr. C. G. SCHURR (Brighton) moved that regulations under the Bill, with the exception of those concerning terms and conditions of service, should be made by the Minister in consultation and agreement with the C.H.S.C.; this was seconded by Mr. LAWRENCE ABEL and carried.

Dr. G. DE SWIET (Paddington) urged that the medical members of the C.H.S.C. should be elected by a secret ballot of the whole profession, but Dr. DAIN convinced the meeting that such matters were better left to the profession's representatives. The meeting agreed to a suggestion from Leicester that at least 8 of the 15 medical members should be in general practice.

There were several amendments objecting to the powers given to the Minister to prevent the annual report of the C.H.S.C. from being presented to Parliament if he thought its presentation would be contrary to the public interest. Dr. G. M. HOUSDEN (Hereford) could see that it might sometimes be unwise to publish a full report in war-time, but there was no point in making provision for such special circumstances in the Bill; the meeting agreed.

HOSPITAL OWNERSHIP

In the anti-Bill atmosphere of this meeting, particularly after Dr. Cockshut's remarks earlier on, it needed some pluck to express approval with any part of the Bill, but Dr. VICTORIA SMALLPIECE (Oxford) was not deterred from moving:

That this Meeting approves State ownership of Hospitals provided that the constitution of the Regional Boards be acceptable to the Profession.

Most voluntary hospitals, she argued, have huge debts, and if they are to get the additional equipment they need and to pay their staff on the new scale their liabilities will rise still further; financial assistance from the Government is therefore unavoidable, and Government help must involve some Government responsibility. She believed that the regional scheme would provide a good service. This view was supported by Dr. G. NESBITT WOOD (Hastings), but it was soon clear that it appealed to only a minority of the representatives. Dr. COCKSHUT asked whether the State had ever been known to run a public service better than the people accustomed to running it. Anyone who sent his boy to a public school showed that he thought State schools inferior. Dr. J. M. CHRISTIE maintained that the taking over of hospitals by the State would destroy their homely atmosphere and pride in their own efforts and would lose them the support of the local community. Dr. J. C. ARTHUR (Gateshead) said that the Bill empowered the Government to take over every hospital and buy up every nursing-home, leaving the private practitioner unable to obtain hospital treatment for his patients. The Minister's policy was "divide and rule." Mr. DONALD WATSON (Bradford) described the removal of local ownership of hospitals as a stab in the heart of the people. Sentiment must always be kept alive in a hospital. Dr. F. K. KERR (Edinburgh) had taken a cross-section of public opinion in Leith by sending out 7000 pamphlets describing the Government's proposals and asking for a verdict on them; of the 6124 replies, 5000 were against State ownership of hospitals. Dr. SMALLPIECE, in her reply, said that the Government scheme followed closely that of the Oxford and Bucks Regional Hospital Board, and there was no reason why it should not work as well as that had done. But the meeting apparently knew some reasons, for it rejected her amendment by 210 votes to 29.

Mr. A. DICKSON WRIGHT (Marylebone) proposed a contrary amendment, viewing with "great disfavour the transference of hospitals to State ownership and the consequent destruction of local interest in hospital services, and the confiscation of trust funds intended by donors for specific purposes." The sequestration of hospital funds was a first step towards the confiscation of capital. The Minister had likened the position to that of the public schools which, at the beginning of the late war, had obtained permission to use trust funds to pay masters' salaries; but that had been an emergency measure, and there was no emergency now. The voluntary hospitals were not really hard up—they were thriving institutions well worth pinching. Dr. LEAK agreed. The Minister had justified confiscation of funds by reference to the Welsh Disestablishment Bill; but that Bill laid down that donations given since the 17th century should not be taken over. Mr. WRIGHT'S amendment was carried with one dissentient.

SALE OF PRACTICES

Dr. G. PRIESTMAN (Bradford) proposed:

That this Meeting regards as essential to the freedom of the patient and profession the right to buy and sell practices as at present.

Where, he asked, had the demand for abolishing the sale of practices come from? The young doctor coming out of the Services, if prohibited from buying a practice, could only apply to a Medical Practices Committee, and they would be very unlikely to give him a job where he wanted it. The established doctor was unlikely to find the compensation offered sufficient in all cases. Dr. J. A. L. VAUGHAN JONES (Leeds) thought it was not yet realised to what extent doctors borrowed money to buy practices. Under the Government compensation scheme £5 million was to be set aside for cases of hardship. The doctor who bought a practice on borrowed money must earn at least £1500 a year if he was to repay principal and interest, and many doctors earned less than that. No doctor could do his best work if saddled with debt. Dr. NESBITT WOOD (Hastings) looked on goodwill as a relic of the time when there was much more competition for private practice. If we turned down the Minister's proposals we might see a heavy decline in the value of our practices. There was no reason why doctors should not band together in group practices without any financial ties. Dr. COCKSHUT said that doctors had been one of the truly free sections of the community because they had owned the means of their livelihood. In the days of slavery the essential differences between slave and freeman were that the slave could not own property and could not choose where he worked. The buying and selling of practices was a much more fundamental matter than appeared. He congratulated the representatives on not being taken in by the £66 million.

Dr. W. S. MACDONALD (Leeds), who had tabled an amendment expressing no objection to the Government's proposals on sale of practices provided the terms of service and pay were satisfactory, suggested that the reason why the 1944 questionary showed a majority in favour of the abolition of sale of practices, whereas now there was a swing the other way, was that at the time of the questionary we still retained the war-time view that our belongings were not as valuable as ethical rightness. We were on muddy ground ethically in this matter of the purchase of practices. Dr. S. WAND (Birmingham) urged that this was not a question of money at all—it was a question of freedom. Now when we were all being asked to retrench the Government were proposing to spend £66 million so that they could direct a few doctors. The remarks of the Minister in Parliament the day before on the punishment of slackers had pointed unmistakably to a full-time salaried service. Mr. MARK S. FRASER (Cumberland) feared that if the Government took over their practices doctors would lose their bargaining power and would soon find themselves completely nationalised. Dr. DAIN denied Dr. Macdonald's "muddy ground" remark; they were not hoping to gain financially by retaining the right to sell their practices. Dr. O. C. CARTER hastened to nail a "lie" of the Minister's in Parliament the day before—that selling a practice is equivalent to selling patients; the patients we "bought" were free to leave us if we did not give them good value. But Dr. F. H. KEMP (Oxford) said his division did believe that the sale of practices was equivalent to selling patients, and welcomed the abolition of sale because it would lighten the young doctor's burden. Dr. LEAK and other speakers emphasised that the money a doctor gives for his practice is his bond to provide good service. The amendment from Bradford was then carried by 229 votes to 13.

DISTRIBUTION OF GENERAL PRACTITIONERS

Dr. N. STEVENS (West Suffolk) wanted there to be no control over doctors in the choice of where they would practise; otherwise son could not count on succeeding father, and the bereaved doctor might find himself tied to a distasteful place; with a reasonable capitation fee the distribution of doctors would, he suggested, adjust itself. Dr. G. DE SWIET (Paddington) urged the meeting to face realities: if the Government were offering a general-practitioner service in every

area they could not accept dictation from doctors on where they should work. There was no mention of positive direction in the Bill—the only restriction was on the setting up of new practices in places where there were enough doctors already. We asked that we should be free like other workers; but most people must go where there is work for them and accept the work offered. It was unreasonable to expect to go where there were no vacancies. The meeting, however, declined to face realities of that kind, and the West Suffolk amendment was carried by 214 to 2.

The meeting expressed its agreement with Dr. ARTHUR (Gateshead) that doctors in the new service should be free to change their category; with Dr. O. WATTS-TOBIN (Chelsea) that when doctor marries doctor they should if possible be allowed to practise together; and with Dr. A. BROWN (Cambridge and Huntingdon) that a retiring doctor should have a say in the choice of his successor.

(Dr. R. P. LISTON: "On a point of order; has the Spens Committee reported yet?"—THE CHAIRMAN: "That isn't a point of order, and I don't know." But later Dr. DAIN announced that the Spens Committee *had* reported, a few days ago, and Dr. J. A. BROWN explained that whereas the Minister had seemed to deny this he had in fact said that he had not yet received a *full* report.)

REMUNERATION

Dr. H. H. GOODMAN (Newcastle-on-Tyne) moved that general practitioners in the new service should be paid by capitation fee only and that there should be no tapering scale of such fees. It was axiomatic, in his view, that doctors should be paid according to how much work they did and how much responsibility they took. A basic salary would cut across that principle and tend to slow down production. With a scale of fees tapering off as numbers increased the "cheapest" patients might get bandied about among doctors. Dr. KEMP, on the other hand, said that Oxford was keen on the basic salary, as being the right way to pay young doctors. There was a large pool of ex-Service doctors in Oxford who wanted to know "how much and how soon." Dr. A. BROWN looked on a basic salary as the thin edge of the wedge. He would give the doctor entering the service £500 a year until his capitation fees rose to that figure. Dr. T. C. S. WEBB (Woolwich) still wondered whether we would not be wiser to accept a salary, but Dr. DAIN said he clearly had not understood the fundamental objection to a salary. When a doctor entered a service under salary he owed allegiance to his employer; with a capitation fee he was an independent contractor. The ex-Service doctor had 1–1½ years to wait before he started work under the service, so whether he would come in under a salary did not affect his position now. Dr. A. TALBOT ROGERS (Bromley) referred to clause 33, section 2*b*, of the Bill which mentions a "prescribed limit" on the number of patients on a doctor's list. This upper limit must be fixed at a level where he could treat all his patients properly; there must be nothing to make the later patients less worth while.

The meeting then registered 209 votes in favour of capitation fee only and 8 against. They also expressed sympathy with pleas from Huddersfield and Westmorland for special consideration for industrial and extreme rural areas.

Dr. DAIN'S motion approving of the council's report was then put to the meeting and carried.

General Attitude to the Bill

The meeting then turned to a series of motions which would remove any remaining doubts in the minds of Parliament, press, and public about the opinion of doctors on the Bill. The motions overlapped widely, so they were taken in groups; this saved a lot of time but made it difficult at times to know which motion was under discussion.

The first of these motions, from Goole and Selby (Yorks), would reject the enactments of the Bill entirely; this was a trifle too drastic even for the most extreme "antis."

Next came a moderately favourable one from the City division, approving the Bill's general framework. The City, said Dr. P. INWALD, had always advocated a comprehensive medical service as the next step to National Health Insurance, and one which would allow the general practitioner to order his life in a saner way. The Bill was rather hazy but would lay the foundations of a good service. We could not stop it passing, and if we rejected it the details would be worked out in our absence. The right function for the B.M.A. was not to opppose the legislature but to make its criticisms felt—to fight for decent remuneration and hours of work, and for the maximum of professional freedom. The Bill had met the doctors' wishes not to be directly controlled by local authorities. Local executive committees could best look after the interests of local practitioners. The compensation offered was generous. We had the right to enter the service or stay out. Let us approve the scheme in outline and then go on to criticise and amend it.

Dr. G. M. HOUSDEN (Hereford) objected to the powers given to the Minister to chop and change the Bill at will; these would make him a veritable dictator. Negative and positive direction were much the same; it made little difference whether a doctor was told that he could not go to anywhere but X or that he must go to X. What were the council going to do to see that the resolutions passed were carried into effect? Yesterday when the B.M.A. was mentioned in the Commons it raised a laugh. Let us tell the Minister: "We have discussed your Bill and are ready to work it on these conditions but no others." No general practitioner would dare to stay out of the scheme. The private doctor would be penalised in treating patients in hospital and would risk the loss of his capital, since if the service was a good one private practice would disappear. The representatives must be ready to fight to the last ditch for the resolutions passed.

Dr. G. O. BARBER (Mid-Essex), like Matthew Arnold, favoured sweet reasonableness. It was no use colliding head-on with the political views of our patients or our elected Government and saying we would have nothing to do with the scheme. Everybody approved of the general outline; it was the methods they did not like. Dr. COCKSHUT (Hendon), by now in terrific form, said the Bill would turn the profession into an inferior branch of technology. If this was an important step towards a comprehensive service, as the City had suggested, what was the goal? The Bill could have been written in two lines:

> "I hereby take powers to do what I like about the medical service of this country.—(Signed) Nye Bevan, *fuehrer*."

Mr. Shinwell, thanks to the powers given him, could send his bulldozers over Wentworth Woodhouse; we must make sure that Mr. Bevan never had powers to send his bulldozers over the medical profession (loud applause). Dr. INWALD, replying, pointed out that 35% of the profession already received whole-time salaries and this had not led to laziness. He himself had never found his clinical work or political views interfered with.

Dr. W. B. J. PEMBERTON (Camberwell) had been told by his patients: "Surely you doctors are strong enough to stop this Bill going through." If doctors stood up for their rights there was no need for repetition of the fiasco of 1911. The most popular institutions in the country were the family doctors and the hospitals. Dr. W. JOPE (Lanarkshire) looked on the profession as a sick person who had called in the family doctor (the B.M.A. council) with a new assistant (the negotiating committee) who had diagnosed a rare malady "aneurin" which neither of them had seen before. They had called

in a consultant, the representative meeting, who had never seen it either. It was no good saying that they would prevent the illness altogether, but for God's sake let them try to make the patient better. Dr. PETER MACDONALD, chairman of the representative body last year, hoped that the Bill would be so modified in committee that it would be acceptable. Dr. J. A. IRELAND (council) drew attention to what the Government were doing in other fields. The Lord President of the Council had said that their aim was to pass bills in blank and fill in the details by regulations. He had never seen so much unanimity in a representative meeting. Mr. LAWRENCE ABEL, of Marylebone, quoted Mr. Bevan as saying there had not been negotiations and there would not be any; Parliament was supreme. But the public had soon shown who was the dictator on the question of dried eggs. Dr. R. HALE-WHITE, also of Marylebone, quoted Mr. Key's remark in the House that it was an impertinent claim for the individual doctor to decide whether he should be included in the scheme—thus freedom was called an impertinence. Though Dr. INWALD told Dr. COCKSHUT that the goal he feared was no worse than the emancipation of the people of this country from disease, the City's amendment was defeated, with but 5 supporters.

Dr. ARTHUR (Gateshead) then proposed:

That while agreeing on the need for improvement in and coördination of existing Medical Services this Meeting disapproves of the methods proposed in the Health Bill to achieve these ends.

The industrial area from which he came had, he said, largely enjoyed the service that the Bill promised for the last 15 years—i.e., they had been largely covered against financial loss from illness. The Government scheme could have been a good one if it had been based on the equipment and man-power available, but it would fall down if the man-power was not working at maximum morale.

Dr. BARBER thought the Bill unworkable; it was based on the strategy of an amateur. The scheme was unlikely to attract the necessary large entry of the right type of young people into the service. When the Minister was prepared to ask the doctors how to work the service they would be ready to help him. Dr. F. GRAY (council) called it a tragedy for medicine to be brought into party politics. In April, 1943, the Ministry of Health under the Coalition Government had put forward a measure for a full-time State salaried service. The permanent officials of the Ministry were the real enemy. The amendment from Gateshead was then put to the vote and carried with 2 dissentients.

Dr. LEAK protested against the number of important points left vague in the Bill to be filled later by regulations, and Dr. TALBOT ROGERS explained the two ways in which such regulations could become law. First, they could be placed before Parliament, and must then have the positive affirmation of both Houses. Secondly, they could be placed on the table of the House, when they would at once become law unless someone moved a successful prayer to upset them. If the regulations under this Bill were to come in the second category they must not be framed without discussion with the profession.

Dr. MURRAY-BROWNE (Gloucestershire) asked that the fitness of a doctor to continue in the service should be judged by the General Medical Council, and not by the tribunal set up under the Bill. Two-thirds of this tribunal would be chosen by the Minister. Dr. W. D. STEEL pointed out that the service, if acceptable, would become a complete one, and if a practitioner was turned out of it he would stand little chance of another job. The tribunal would therefore largely usurp the functions of the G.M.C. At Dr. Dain's suggestion, however, this point was left undecided, because the disciplinary machinery under the Bill was still under discussion.

By way of light relief, Dr. J. A. PRIDHAM (council) here interjected some figures to answer the criticism that the B.M.A. does not represent the profession. In 1935, he said, the association had 35,000 members; in 1939 it had 39,000; and in 1945 it had 51,508. Active doctors in the country were said to number 54,369, and the B.M.A. could claim to include some 75% of that total. The total membership of the Socialist Medical Association, medical and non-medical ("according to their organ, the *Times*"), was 1800.

COMPENSATION

The meeting agreed with East Herts that compensation for the loss of goodwill should be paid when a practice is taken over, and not on retirement or death. The discussion on this motion was chiefly remarkable for a solemn declaration by Dr. S. F. L. DAHNE (Reading): he had followed his father, his grandfather, and his great-grandfather in practice, and would never sell his birthright.

Dr. L. DOUGAL CALLENDER (Doncaster) proposed that doctors should be allowed to retire with compensation before the retiring age, for some would wish to take up other work. This was agreed, as was another motion from Doncaster that compensation should be paid for property used for professional purposes. Dr. R. G. ANDERSON (Gloucestershire) mentioned the case of specialist practices which are bought and sold; where it could be proved that a specialist had bought his goodwill he should receive compensation. Dr. TALBOT ROGERS pointed out that if the Minister was going to produce enough specialists he must recruit some G.P.s; the Minister's officials took the view that such practitioners were entitled to compensation directly they gave up general practice. Dr. DAIN here intervened to explain that the Minister did not intend to interfere with the buying and selling of specialist practices.

TERMS OF SERVICE

Mr. NICHOLSON-LAILEY (West Somerset) wanted the profession to pledge itself not to serve under the National Health Service unless a majority were satisfied with the terms and conditions of service and remuneration. There must be unity in the profession, and discipline should be enforced as in a trade union. Dr. H. SUTHERLAND, on the other hand, thought this suggestion premature. The B.M.A. had never been a trade union and he hoped it never would be. The power of a union depended on its ability to carry out an effective strike. Dr. A. C. E. BREACH (Bromley) said there was a majority view in his division that much of the Bill was sound and a suitable basis for negotiation. Block opposition was not the best way to deal with matters of this kind. The Bill would go down to history as well worked out. Dr. DAIN once more intervened to caution the meeting against precipitate action. This was not the moment for such pledges, because we did not yet know the terms of service. It must not be thought that the profession would break on a question of payment; that was why remuneration had been left in the hands of a lay committee. After this warning the motion from West Somerset was passed over. But the meeting agreed to one from Torquay saying that acceptance of any or all of the principles of the Bill must not imply that the profession would agree to work the service before they knew what terms were offered.

PLEBISCITES, REFERENDA, &C.

Dr. J. B. W. ROWE (Harrow) wanted a plebiscite of the whole profession taken before the council recommended doctors to accept or refuse to serve under the Act. Dr. A. C. DE B. HELME (Guildford) preferred a referendum to be taken at once. The meeting did not know the difference between a plebiscite and a

referendum, and Dr. CHARLES HILL was called on to consult a dictionary. This he did with resounding effect, but the meeting's doubt remained. Dr. DAIN thereupon stated that a plebiscite would be taken by the council to find out whether doctors were prepared to serve, but this was not the appropriate moment for it.

DISCIPLINE

A motion from Buxton and Dorset urged that there must be a right of appeal from the decision of the Minister to the courts; this was generally agreed, and Dr. DAIN promised to bear it in mind. Dr. DE SWIET (Paddington) wanted legal representation for anyone appearing before a tribunal. The present arrangement, he said, was unsatisfactory; there was no legal representation, for example, before insurance committees. It was a pity that the new Bill said nothing about reform of the G.M.C., but it was a greater pity that it introduced a new disciplinary body, the tribunal, from which there was no appeal, and before which legal representation was forbidden. Dr. R. W. MCCONNEL (Bucks) thought a doctor would get more justice from a medical service subcommittee, on which there were no lawyers, than by dragging in law-courts. Dr. ARTHUR (Gateshead) asked that new machinery should be set up to decide on all matters of arbitration without reference to the Minister.

MIDWIFERY

East Yorkshire feared that general practitioners would be excluded from being called in by midwives in emergencies. While midwifery was still included in the medical curriculum, practitioners should be permitted to carry out domiciliary midwifery. Mr. J. D. R. MURRAY (Exeter) urged that the patient should be the one to choose the doctor rather than the midwife. Mr. NICHOLSON-LAILEY thought that every woman under the new service should be free to engage a private doctor for her confinement, who should obtain the fees under the service. There was no mechanism in the scheme for a family doctor to attend a normal case. Dr. PRIESTMAN (Bradford) emphasised that midwifery was essentially the job of a general practitioner provided he could call in a consultant if necessary. These suggestions were all carried.

PENAL POWERS

At this stage the meeting, with an eye to the 60 motions still outstanding, began to be a little hustled. This was a pity because Dr. R. COVE-SMITH now produced something of a bombshell in the form of counsel's opinion on section 35 of the Bill, which lays down the penalties for infringement of the regulations. He told the meeting enough of the legal opinion to make their hair stand on end in the few minutes allowed him. It appeared, for example, that a doctor might find himself involved in criminal proceedings if he sold a second-hand stethoscope to his successor. He made it clear that this section deserved careful investigation. Mr. A. DICKSON WRIGHT (Marylebone) described the penalties in section 35 as "savage," and Dr. HELME called the Minister's powers fantastic. He could withhold grants at any stage if he did not like the action of a doctor, and could even set up a new service by regulations. Dr. J. A. GORSKY (Westminster) agreed that the Minister could repeal any section of the Act or the Act itself on his own responsibility. Dr. COVE-SMITH, remarking that the price of freedom is eternal vigilance, advised the meeting not to be let in for the penal clauses.

PRIVATE PRACTICE

Dr. O. C. CARTER (Bournemouth) moved that under the Bill any private practitioner or specialist should have the same rights and privileges for treating patients as doctors have at present, and this was carried. Dr. S. WAND (Birmingham), speaking for the general-practice committee, said he could see no chance of the Government encouraging private practice. Dr. J. R. BAKER (Scunthorpe) would like to see a permanent private practice service, with equal facilities, set up as a yardstick for the public service. It would be to the detriment of the public service if no alternative was provided. Dr. R. P. LISTON (Tunbridge Wells) urged that G.P.s should have a right of access to any pay-beds available in hospital, and his motion was carried unanimously. Dr. J. B.W. ROWE (Harrow) wanted a grant-in-aid system to enable patients to obtain private attention if they wished, but Dr. WAND was afraid that if the Bill allowed grants-in-aid these might defeat the whole interests of private practice. Dr. ARTHUR, on the other hand, recalled that such grants had been worked by provident societies for years. In his view, they would save private practice in many areas. The meeting agreed to support a grant-in-aid plan.

DEMOBILISED DOCTORS

Dr. A. A. MCINTOSH NICOL (Sunderland) asked for urgent attention to be given to the interest of ex-Service doctors, and suggested that such attention would help to enlist their coöperation in the opposition to the Bill. He urged that part of the B.M.A. fighting fund should be allocated to Service doctors who could not find a suitable job because of uncertainty as to the future. They would be driven into a State service by lack of money. Dr. W. B. A. LEWIS (Shropshire) said the ex-Service doctor was a very real weakness in the position of the profession. The B.M.A. scheme for helping him to buy a practice offered terms little better than that of insurance companies. Mr. C. E. BEARE (Reigate) hoped that doctors selling practices or taking in assistants would offer the new man better terms than before—e.g., one year's purchase without interest. The meeting agreed unanimously to recommend a share of the fighting fund for ex-Service doctors.

VACCINATION

Perhaps because it was hurried, the meeting was hasty in supporting a motion regretting the abolition of compulsory vaccination in the Bill. Dr. COCKSHUT explained to them that abolition was proposed on the advice of experts, who were unanimously of the opinion that, far from reducing the amount of vaccination done, abolition of compulsion would considerably increase it. This was one occasion on which the Minister had acted on expert advice, and it would be a pity if the meeting opposed the experts. The meeting thereupon reversed its opinion.

Medicine and the Law

Overdose of Moryl

FOR the third year in succession we have to record a death due to an overdose of carbachol. At a recent inquest at Croydon upon the death of Margaret Bullock, a married woman, the doctors were alleged to have been misled by the printed instructions issued by the manufacturers.

The evidence, as recorded in last week's issue of the *Croydon Advertiser*, was as follows. The deceased was admitted to the Croydon General Hospital at about 10.30 A.M. on April 19; she had been warned on the previous day by a member of the medical staff when she visited the hospital for examination that she ought to enter the hospital at once; he had found that her pulse-rate was over 160. When she entered the ward on the 19th, he found that the pulse-rate had not fallen. He discussed the case with the house-physician, asked at the dispensary for 'Mecholyl,' was told that there was none in stock, and being shown a box of 'Moryl,' ordered the injection of one ampoule of moryl. The drug was sent to the ward from the dispensary. The house-physician read the instructions in the box; the dosage printed agreed with the dose which had been ordered, and the ward sister was directed to carry on with the injection. The house-physician had not

used moryl before and was unaware of its history or of the dosage but followed what were understood to be the printed instructions issued.

At 1.15, in response to an urgent call, the house-physician visited the ward and found the patient very blue and gasping for breath; her pulse was not palpable at the wrist. The patient collapsed and died very quickly. Informed of the fatality, the doctor who had ordered the moryl to be administered inquired what amount had been injected and was told that the dose was 0·1 gramme. He immediately realised that there had been an overdose, since the correct dose should have been 0·00025 g. After seeing the house-physician and ward sister, he telephoned to Messrs. Savory and Moore, the manufacturers, and asked them how it was that one gramme of moryl was in a box containing printed instructions that the dose of moryl should be a half to one gramme repeated three or four times during the day. It was Good Friday and he could not get in touch with the managing director till next day. The latter telephoned to him on the Saturday and, in the course of discussion, referred to the previous case at Oxford about 18 months earlier; after the Oxford incident, he said, he had twice caused notices to be published in THE LANCET asking for the ampoules to be returned.

Mr. Samuel Stevenson, chief chemist to the manufacturers, mentioned the Oxford case in his evidence before the coroner. After the inquest at Oxford, he said, Savory and Moore had been asked to withdraw all the packets then in use; a telephone message had been sent on behalf of the manufacturers to the Croydon Hospital, asking for the return of any packets they possessed. The firm's records showed that the hospital received moryl in December, 1940, to be used for ionisation. The hospital disputed the statement that it had received a telephone message from the manufacturers.

The pathologist who conducted the postmortem examination said that Mrs. Bullock had been in a serious condition. She had a cancer in the left breast and a lump on the thyroid gland. Death was caused by poisoning due to an overdose of moryl. The deputy coroner, in summing up, said that the hospital doctors had admitted an error. The jury might find that the hospital had, or had not, received word to send back the drug; it was possible that the firm's instructions had been misleading. The jury returned an open verdict.

Besides the Oxford fatality already mentioned (*Lancet*, 1944, ii, 609, 669) there was a similar death in the Coventry and Warwickshire Hospital (1945, i, 504). In the Oxford case the widow of the deceased was awarded damages against Savory and Moore Ltd. in an action alleging that the firm had been negligent. The negligence which the judge found to be established by the evidence consisted of the packing of moryl crystals in an ampoule and putting into a box containing ampoules of crystal moryl a pamphlet of printed instructions similar to the instructions put into boxes containing ampoules of the liquid form of the drug. In the light of the three cases which have now occurred, it is obvious that dispensaries should overhaul their stores and see that no further risk is run.

INFECTIOUS DISEASE IN ENGLAND AND WALES

WEEK ENDED APRIL 27

Notifications.—Infectious disease: smallpox, 0; scarlet fever, 1054; whooping-cough, 1669; diphtheria, 389; paratyphoid, 5; typhoid, 4; measles (excluding rubella), 2793; pneumonia (primary or influenzal), 654; cerebro-spinal fever, 48; poliomyelitis, 5; polio-encephalitis, 0; encephalitis lethargica, 0; dysentery, 163; puerperal pyrexia, 148; ophthalmia neonatorum, 50. No case of cholera or typhus was notified during the week.

The number of service and civilian sick in the Infectious Hospitals of the London County Council on April 24 was 1161. During the previous week the following cases were admitted: scarlet fever, 45; diphtheria, 30; measles, 87; whooping-cough, 26.

Deaths.—In 126 great towns there were no deaths from enteric fever, 3 (0) from scarlet fever, 6 (1) from measles, 7 (3) from whooping-cough, 1 (0) from diphtheria, 56 (6) from diarrhœa and enteritis under two years, and 18 (2) from influenza.

The number of stillbirths notified during the week was 235 (corresponding to a rate of 27 per thousand total births), including 32 in London.

In England Now

A Running Commentary by Peripatetic Correspondents

THIS year the summer exhibition of the Royal Academy begins in the courtyard of Burlington House where King George V sits ready mounted for his journey to Adelaide, while a rather dwarfed Sir Joshua seems to be dashing off a farewell sketch of the departing monarch. Inside, the academicians have decided to put the war behind them as quickly as possible, and there are very few uniformed portraits—a dubious gain, modern masculine dress being what it is. But Mr. Rodrigo Moynihan has contributed an effective study of Mr. Somerville Hastings wearing his badge of office as chairman of the L.C.C. for 1944–45. Mr. Henry Lamb, a contemporary truant from medicine, shows portraits of children and adults, including a notable head of Benjamin Britten. Among the sculpture is Mr. Escourt Clack's bronze bust of Sir Alexander Fleming, F.R.S., and Mr. Benno Schotz's bronze of Sir Donald Pollock, lord rector of Edinburgh University from 1939 to 1945, in academic hood. Mr. Huxley Jones's head of Dr. Douglas MacCalman is in the central hall. The architectural drawings include Mr. Herbert Clark's plans for a special hospital on a town site; W. and T. R. Milburn's sanatorium at Middlesbrough; Stanley Hall and Easton and Robertson's rebuilding scheme for the London Chest Hospital; and Henry Braddock's old people's dwellings at Ashford, Kent.

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There were only two F.B.s in eye, a dogbite, and a no-doctor's-letter waiting in the receiving-room until he arrived to disturb us. His inanimate bloody body was escorted in by a policeman, two ambulance men, an Underground inspector, and a witness. The history was confused, but the odds seemed on the razor-slash story of the witness rather than the fit story of the inspector. When all the blood had been cleared up, the only wounds to be found were two parallel scratches on each cheek and across his forehead. Sister looked over the screen, said "Fake," and started to talk to a detective who had arrived by then. Encouraged by Sister's diagnosis and a completely normal C.N.S. we tried the routine inch of hatpin without much success; face-slapping and corneal trauma were also non-productive, and more medieval methods of revival were being planned when Sister looked over again and hissed "Talk about jail." The sentence "Well, if he doesn't behave himself he'll have to go to jail" produced complete recovery, the patient sitting up and saying, "Sure and that's where I want to go." Rather shattered by this, we appealed to the detective, who thereupon recognised the patient as an old and valued customer. A short conference, in which the patient took an active part, decided it would be best to be arrested as drunk and disorderly, a plea of destitute not being allowed in view of his considerable financial means and a Salvation Army hostel season ticket.

As he was leaving he told us he wanted to go to jail because he had found that the regular meals and sleep provided by His Majesty did his "gastric" the world of good.

* * *

It was impossible for one whose last visit to the Continent was in the spring of 1939 to conceal his excitement as the Belgian coast and Flanders came into view through the windows of the Sabena Company's twenty-seater plane. I turned to my neighbour, a young Belgian civil servant returning from an economic conference in London, and said: "This is D-day for me." "It will be rather different on this occasion," was his reply; "there will be no resistance."

The Brussels airport looked dreary and empty in the darkening afternoon of a hard winter day. I was surprised to find the R.A.F. still in titular control and that all travellers went through the bottle-neck of British military security. At the Sabena office the wife of my Brussels friend and colleague—my hostess on many previous visits—was waiting with a car to convey me to the club of the Fondation Universitaire (F.U.) where I had been a temporary member on similar missions before the war. Behind its simple façade in the quiet Rue d'Egmont the interior of the F.U. looked as dignified and elegant as ever. *Le tarif*, allowing for the increased cost of living, was still moderate—English

club prices for my room (the bathroom stocked with towels of pre-war quality) and for my "breakfast" (café complet). The table d'hôte luncheon was a little expensive on British standards, but remembering the excellence of the pre-war cuisine this did not seem unreasonable. I was not disappointed.

The shadow international committee of eight people assembled next day, representing France, Great Britain, Scandinavia, Holland, and Belgium, and including the president of our International Association, one of the most distinguished of pre-war Paris surgeons, now retired from his chair and hospital. Our business was to discuss plans for reviving the activities of the association, to decide when and where the next international congress should be held, and, most important of all, to expel members from enemy countries. After a three hours' sitting we had settled the rest of our business but failed to decide on the exact procedure of expulsion. The speed of the arguments at times left me giddy and guessing. At one stage, the torrential flow of French was interrupted by the Danish delegate breaking into German, to be followed immediately by the Dutch and Belgians in the same language. As I had learnt German at the age of nine, this was a welcome relief—but it was an ironical moment.

The discussion was resumed later in the hospitable home of our senior Belgian colleague, and before the large dinner party assembled in our honour had broken up. The Spanish delegate had arrived from Barcelona too late for our committee meeting but in time for the superb dinner. The proposition regarding expulsion was explained to him by our president in a sentence of incomparable brevity, possible only in the French language: "Nous cherchons une formule juridique valable." Shortly before midnight we had found the formula under "Article Onze" of the constitution, and we returned to the company and the cognac.

Next morning, a Sunday, I woke to find Brussels covered by a mantle of snow which rapidly froze on the pavements. The central heating of the F.U. was comforting, and I was loth to turn out in the evening to seek my dinner in a near-by restaurant. It was then that I came into contact with the prices of the universal black-market in food. For the first time in my life I argued with a waiter about the cost of a meal; we finally agreed on 150 francs (17*s.* 6*d.*) for the smallest lobster of a bunch arranged on a side table. The café filtre here, as in all the restaurants and cafés, was nectar. Next day the weather was savage and the sky dark. After settling my modest account at the F.U. I arrived at the Sabena office to be told that no plane could land at Croydon that day, though if the weather improved a special plane expected back from the Belgian Congo would leave early next morning. It was thus necessary to get accommodation for another night in Brussels in a hotel, where I met the full blast of the prices for tourists. I left the hotel at 6.30 next morning in pitch darkness in a "taxi noir" and was driven a quarter of a mile to the now familiar Sabena office. "Soixante quinze francs monsieur—c'est le tarif du gouvernement." I protested that we had liberated his country at great cost, but paid up. The twenty-seater Congo plane left the ice-bound airport after a hazardous start. Our first attempt at a take-off was a failure—a mild bump—back to earth just as we were airborne. We crossed the Channel at 3000 feet, in a beautiful sea of white clouds, to touch down at Croydon just three minutes before a dense fog enveloped the whole aerodrome.

* * *

In England now, incredibly, and April here. As I walked through the fields again that afternoon the cuckoo opened his bill, and I thought of April last year when the ubiquitous bird sent fancy home from the far corner of the earth.

In Shirekawa we awoke to glorious spring days knowing that we had somehow survived another winter. There was dew on the grass in the early mornings and this softened the bare feet, and banished dropsy too according to the little Japanese sentry. Garish flowers bloomed in the beds, and over the stockade the central mountain range rose blue and ethereal in the sky. A golden oriole piped in liquid phrase, and a jangle announced a company of infantry double-marching by, keyed up to repel the invasion which never arrived. The end came later to cloud-cuckoo land, not with a bang but a whimper.

Letters to the Editor

FOWLER'S POSITION

SIR,—Mr. Spalding's article in your last issue marks a step forward in surgical teaching as important as that made in the realm of technique by Terence Millin's on the retropubic operation for prostatectomy. I personally am delighted to find such sound reasoning and such convincing evidence in support of views to which I have been inclining for the last ten years.

As a surgical beginner I was struck by the extreme discomfort of the Fowler position, by the tense face, braced neck, clenched hands, and dug-in heels of the patient, and the pink cheeks of the nurses who struggled hourly to lift him from the prolapsed to the approved position. In 1925, in the course of some experiments on absorption from the peritoneum, I found that carmine particles introduced into the abdominal cavity of animals were taken up entirely by the great omentum and the diaphragmatic peritoneum.[1] At that time, however, the evidence of the ward and the laboratory was not enough to offset in my mind the dictates of authority.

Just before the war I received from Burns Plewes, a young Canadian surgeon, who had worked with me in London, his M.D. thesis on pulmonary embolism.[2] In the group of surgical wards whose records he investigated, there had been two or three cases of pulmonary embolism yearly up to 1930, 4 cases in 1931, 12 in 1932, 28 in 1933, 16 in 1934, 35 in 1935, 30 in 1936. This remarkable increase was found to correspond in time with the gradual re-equipment of the wards with a cranking frame bed giving a fixed Fowler position, so that more patients were put in this position, they remained there without a struggle, and they tended to be kept there longer.

During the campaigns in Africa I was greatly impressed by the regularity with which patients with abdominal injury who could not, on account of other wounds, be propped up, recovered without any pulmonary or embolic complications, and without residual abscesses. I found that forward surgeons and anæsthetists had noticed the same thing, and that they were inclined first to doubt the value of the Fowler position, later to discard it. I thus became convinced that abdominal patients, at any rate those whose injuries were below the diaphragm, did better if they were nursed flat, and rolled at intervals from one side to the other, than if they were propped up in the Fowler position.

I have returned to civil practice a convinced anti-Fowlerite, and I have been confirmed in the soundness of this position by seeing Spalding's long record of acute abdominal emergencies of every kind without supra- or sub-diaphragmatic complications. I hope that his article will stand as a landmark in the progress of the surgeon from the mechanically trained technician to the function-minded physician-craftsman.

London, W.1. HENEAGE OGILVIE.

SIR,—In his admirable article Mr. Spalding draws attention to recent work which has established the fact that postoperative thrombosis, which may give rise to pulmonary embolism, begins in the veins of the calf and not in the iliac or femoral vessels as has so often been taught.

If pulmonary embolism, perhaps the most tragic of all postoperative complications, is to be avoided every care should be taken to minimise the incidence of thrombosis in these veins of the calf. For this reason the "knee pillow," popular with some nursing staffs, is to be condemned, inasmuch as it may lead to thrombosis by producing venous obstruction.

It is possible also to take another precautionary measure—namely, to avoid prolonged pressure on the calf of an immobile patient lying anæsthetised on the operating-table. For the past nine years in this unit it has been a routine procedure to elevate the calf muscles so that they lie clear of the surface of the operating-table. As soon as the patient is lifted on to the table a piece of 'Sorbo' rubber with a square section of

1. Ogilvie, W. H. *Brit. J. Surg.* 1925, **12**, 752.
2. Plewes, B. *Canad. med. Ass. J.* 1939, **41**, 271.

five inches and two feet in length is placed under the Achilles tendons so as to lift the calves clear, and this is left in position throughout the operation. In Service and other hospitals I have been accustomed to use a sandbag for the same purpose.

The incidence of pulmonary embolism is fortunately so low that it is difficult to provide statistical evidence, worthy of consideration, in favour of this simple measure. Nevertheless I would commend its extended use. As far as I am aware no case of pulmonary embolism has occurred in any of our patients for whom it has been used. From time to time I have drawn attention to it (*Medical Annual*, 1939, p. 394; 1942, p. 49) but it does not appear to be as widely practised as I believe it might be with advantage.

Surgical Unit, Royal Infirmary, Cardiff. LAMBERT ROGERS.

EMPLOYMENT OF HOSPITAL STAFF

SIR,—Sir Ernest Rock Carling has done well to remind us of the current misuse of the terminology "employer" and "employee" as applied to the status of hospital staffs (April 27, p. 626). It is appropriate that the argument should be carried into the wider realm of general ideas; and what I have to say here, for lack of space, must be expressed dogmatically. It cannot be stated too often, or with too much emphasis, that the terms "employer" and "employee" have no historic, social, or legal significance in relation to the manifold activities of a free, learned, and self-governing profession, whose traditions go back to the time of Hippocrates and to the great age of Greek thought. The employer-employee relationship belongs essentially to the language and techniques of the practice of commerce, although in our modern industrial society, in an era moving towards collectivism, the traditional connotation of these terms is becoming less clearly defined—but this is another story.

The doctor-patient relationship of general practice is not the relation of employer and employee. Nor is the health officer (any more than the town clerk) an employee of the city or county council. Both are appointed officers of a local authority and are servants of the community in the classical sense of that term. The position of specialist staffs of hospitals (both voluntary and local-authority), vis-à-vis committees of management, whether these specialist staffs are serving in an unpaid capacity or are in receipt of token honoraria, sessional fees, or salaries, is again not that of employee and employer. Nor, in my judgment, would that relationship obtain in a regional administration, set up under any system of common ownership of hospitals.

It must be insisted that managerial functions and responsibilities are one thing; professional functions and responsibilities are another. The functional pattern of any hospital, in terms of the practice of the healing art and the advancement of medical science, is the sole creation either of the members of the staff of this generation or their predecessors. This is an undisputed prerogative of the free profession of medicine, who are concerned with hospitals as vehicles through which their contributions may reach their fellow members of society.

The relation of specialist staffs to the various types of governing or managerial committees of hospitals is in every way comparable to the relation of the teaching staff of a university to its lay governing body. In such a relationship the implication of employer and employee not only has no meaning, but if invoked would be insulting. In a long period of service on the staff of a voluntary hospital, as consultant to an important local authority and in surgical charge of one of its hospitals, and as a university teacher, I cannot recall any corporate or individual pronouncement that I or my colleagues were employees of any institution through which it has been our privilege to serve the community of the region in which we work.

The personal opinion of the chairman of the British Hospitals Association, which prompted Sir Ernest Rock Carling's letter, should leave the consultant and specialists of this country completely unmoved.

Manchester, 13. HARRY PLATT.

NEURONAL DAMAGE FROM CARDIAC ARREST

SIR,—The article by Wing-Commander Howkins and others in your issue of April 6 is of great academic interest, and leads me to recall a similar case of my own, with cell damage in the mid-brain after cardiac massage, in which the patient only "lived" a further 16 hours.[1]

What is more important, however, is to consider how such a tragedy can be prevented. There are three main facts: (1) the patient was a healthy married woman, aged 32; (2) the operation was short and simple; and (3) the patient died. It would be useful to know what drugs were given before operation; for these may have influenced not only the anæsthesia but also the onset of anoxia. To my mind, the report of the cardiac failure in this case clearly indicates that the patient died of anoxia.

This brief and simple operation could have been done (1) under 'Nupercaine' anæsthesia, or (2) under 'Pentothal' and gas and oxygen; but why all three? The senior anæsthetists in this country have for some time been alive to the risk of anoxia under spinal anæsthetics, and this case will reinforce their warnings.

For years I have used nupercaine by Howard Jones's method for perineal and abdomino-perineal excisions of rectum. A large man may be given morphine gr. 1/6 and hyoscine hydrobromide gr. 1/200. Spinal analgesia is then induced to the level of the 6th dorsal vertebra, and the patient placed in a position for operation; and I have known as little as 0·15 g. pentothal keep one asleep for over half an hour. Being mostly paralysed, they receive no stimulus to awaken them, and many a patient has thanked me for a comfortable sleep when leaving the table. If this dosage is right, it would seem that 0·5 g. of pentothal in addition to the spinal anæsthetic is too heavy a dose.

It is my practice to administer oxygen to all patients under spinal anæsthesia, whether conscious or unconscious, whether they appear to need it or not. Most teachers favour this as a precaution against accidents.

Great Brington, Northampton. F. F. WADDY.

*** Mr. Howkins, to whom we have shown this letter, writes: "I must point out that in our article all criticism of the anæsthesia was studiously avoided. The case was presented because of its clinical and pathological interest. Speaking only for myself and not for my co-authors, I agree with Dr. Waddy when he suggests that an efficient spinal in itself should be sufficient anæsthesia provided that the patient is a suitable subject. If absolute silence and quiet movement are maintained in a theatre there is no reason why the patient should have any additional anæsthetic. I do not, however, think that in this case the anæsthesia was responsible for the patient's death, and one point in favour of this is the time of onset of the cardiac failure. Occasional cases of pentothal sensitivity are seen and I can recall a middle-aged airman who died after a small dose of pentothal for an ear, nose, and throat operation—0·5 gramme as far as I can remember. In this case the patient never recovered consciousness, though he was kept alive for some hours by artificial respiration. In answer to Dr. Waddy, the premedication used in the case reported was 'Omnopon' gr. 1/3, scopolamine gr. 1/150."—ED. L.

THE TUBERCULIN-TESTED CHILD

SIR,—As Dr. Comfort points out (April 20) the parents of a child found to be Mantoux-positive have a right to know what that implies, especially in view of the recent alarming pronouncements of Moncrieff and Gaisford. Most cases of tuberculous meningitis die in hospital; so pædiatric physicians tend to see the grimmer side of the picture. There are undoubtedly wide geographical variations, and no comprehensive figures are available in this country; but the experience derived from the population served by the Ealing Chest Clinic seems to confirm that of workers in the United States.

In the years 1942–45 we examined 1476 children for the first time, 462 of whom were under the age of five. Of the 395 of these who had been definitely in contact with tuberculosis, 249 were positive to an intradermal injection of up to 1 in 100 old tuberculin. Of the 67

1. Waddy, F. F. *Brit. J. Anæsth.* 1942, **18**, 60.

not known to have been in contact, 21 were positive. Death occurred within three months in 4 of the former group and in 2 others originally tuberculin-negative who later became positive. Of the remainder, all those with demonstrable tuberculous lesions made a good recovery, with or without institutional treatment, and those without such lesions continued well and free from serious tuberculosis.

In the light of this experience, I feel justified in giving all young positive reactors a guarded prognosis for the immediate three months and a confident one if this critical period is safely survived.

BRIAN THOMPSON
Tuberculosis Officer,
Middlesex County Council.

Ealing Chest Clinic,
London, W.13.

PARALYSIS AGITANS

SIR,—On April 27 you published a letter explaining that the National Hospital, Queen Square, has severed its connexion with the Parkinson's Research Society of which I am chairman and was the original Founder. I hope you will allow me to state my and the society's case.

The society was formed by near relations of victims and by victims of this terrible disease, stated to be incurable, in order to produce funds for research in the hope of finding a method of cure. In fact we raised funds or promises of funds amounting to nearly £7000.

We naturally turned to the National Hospital for help, and Mr. E. Mitchell, their secretary, became our hon. secretary and Dr. E. A. Carmichael joined our committee. Among many doctors with whom various members had been in consultation was Dr. W. M. Crofton. In reply to a communication from me he wrote: "There is no necessity to do any research in Parkinson's disease. The microbial cause of this is completely worked out and a specific method of treatment can always be used. If this is used when the first symptoms appear, the case is rapidly cured." I was further informed by Dr. Crofton that this form of parkinsonism was long ago discovered to be one of the sequelæ of influenzal encephalitis, for which a method of specific treatment had as far back as 1919 been demonstrated (notably at the Northern Hospital, Winchmore Hill) by means of a specific antigen of the bacillus which can be isolated in each case. If the disease was treated in the early stages, before irreparable damage had been done, the cure was absolute; even in seriously damaged cases arrest and improvement in symptoms had been amply demonstrated.

To sufferers, who had been informed that the cause and cure were unknown, this was a great hope, and I asked Dr. Crofton to meet the committee and demonstrate cases. This he did to the satisfaction of the committee and to the great interest of two doctors present, one of whom was Dr. Hill's successor at the Northern Hospital. Mr. Mitchell and Dr. Carmichael excused themselves from attendance, chiefly on the grounds that meetings should not be held elsewhere than at the National Hospital. Books and papers were supplied by me to Dr. Carmichael, but the latter made no comment on them.

The National Hospital now repudiate further connexion with this society, and say that their medical committee cannot endorse these claims which they have not even tested. But respectfully I would point out that the cured sufferers and those who have benefited by the treatment *can* endorse the claims, at least in so far as the treatment is concerned. We are not a commercial association for the purpose of selling drugs or enriching ourselves or anybody else—we are "incurable" sufferers seeking a cure by whatever means possible; and this we appear to have found. I cannot see that it is in the public interest for a hospital medical committee to issue a disclaimer which is tantamount to a negative of these claims without any test whatever.

E. TELLER
Chairman, Parkinson's Research Society.

Bidborough, Kent.

*** We understand that the National Hospital takes the view that these claims are not supported by any adequate published evidence, and in consequence the hospital cannot endorse them. To take this attitude, however, is not to object to a due examination of any substantial scientific evidence which may be forthcoming.—ED. L.

RESTORATION TO WORK

SIR,—In last week's annotation you quote certain figures as my estimate of the number of people in Great Britain likely to need medical reablement, vocational advice, training for fresh occupation, or sheltered employment, as a result of disability. May I point out that in the article from which these figures are taken I merely said that if the American estimates were applicable to Great Britain, the figures would be as quoted, but that it looked at first glance as though they represented a somewhat liberal estimate. The fact is that we have altogether insufficient data upon which to base any accurate estimate at present, but ample evidence that the problem will be one of considerable dimensions.

May I also point out that instead of stating that disabled persons now appearing at employment exchanges for purposes of registration needed "medical and industrial advice first," as quoted in your note, what I actually said was that "it is medical advice and not industrial which these disabled persons first need, for in many cases their disabilities could be greatly reduced by a suitable course of medical treatment and rehabilitation, or by expert opinion as to the type of work they could best do or the conditions they should avoid."

HAROLD BALME.

Beckenham, Kent.

NEW REMEDY FOR LUPUS

SIR,—Dr. Dowling in his letter of April 20 draws attention to the dangers of large doses of vitamin D_2 in the treatment of lupus and suggests that as a safeguard the level of calcium in the blood should be regularly estimated. But vitamin-D poisoning may occur without hypercalcæmia; so probably the archaic habit of noting the patient's symptoms—though more irksome than sending his blood to the biochemists—gives the best warning that further treatment should be given with caution. The frequent testing of the urine for albumin is also a simple precaution and one which I believe some doctors still do without laboratory assistance: some might even look for the calcium casts which may often be found with hypercalcæmia if the urine is not highly acid.

The *early* symptoms of poisoning vary, those most frequently reported being acute tenderness of the scalp at the back of the head; a feeling of general well-being and an increased appetite, both soon changing to general fatigue with headaches and nausea; polyuria; pains in the teeth, jaws, and joints; paræsthesiæ; and a socially inconvenient increase in libido. Small doses of yeast may abolish minor symptoms and so allow treatment to be continued. Personal idiosyncrasy may prevent taking even such small doses as 25,000 I.U. daily, and patients who are fat or bedridden may also have a low tolerance.

From the practical point of view, however, the risk of any serious or lasting injury from vitamin-D poisoning is so slight as to be no contra-indication to therapy unless the patient becomes definitely ill, or develops albuminuria, or has renal or vascular degeneration before treatment starts. In all such cases the local application of a vitamin-D_2 ointment appears to be an alternative to oral treatment which is worthy of trial, since the concentration of the vitamin would be raised in the lesion but not to the same extent in the rest of the body—a logical aim if, as seems most probable, vitamin D_2 has a direct action on the tubercle bacillus.

FRANKLIN BICKNELL.

London, W.1.

CONTRIBUTORS to the *Journal of Endocrinology* have recently formed a new society with the aim of advancing endocrinology by observational, experimental, and clinical studies. The inaugural meeting was held at Guy's Hospital, London, on April 26, when the following elections were made: hon. secretary, Mr. S. J. Folley, D.SC.; hon. treasurer, Mr. C. W. Emmens, PH.D.; hon. editor of the society's proceedings, Prof. S. Zuckerman, M.R.C.S., F.R.S.; members of committee, Dr. P. M. F. Bishop, Mr. A. S. Parkes, D.SC., F.R.S., Mr. P. C. Williams, D.SC., and Prof. F. G. Young, D.SC. The address of the hon. secretary is: c/o the National Institute for Research in Dairying, Shinfield, nr. Reading.

Obituary

WALTER EDWARD DANDY

M.D., F.A.C.S.

THE death is announced of Walter Dandy, professor of neurological surgery at Johns Hopkins University, Baltimore. Born in 1886 of parents who came from Lancashire, he qualified in 1910 and became assistant to Harvey Cushing in the Old Hunterian Laboratory at Johns Hopkins. At that time he worked on the blood and nerve supply of the hypophysis, but it was not until 1913–19 that he showed his powers as a surgical experimentalist by his observations, partly with Kenneth Blackfan, on internal hydrocephalus, in which he proved in dogs that the cerebrospinal fluid was formed at the choroid plexus, and boldly attacked infantile hydrocephalus by excision of the choroid plexuses of the lateral ventricles. At this time also he was assessing with George Heuer the value of radiography in the diagnosis of brain tumours, of which they were able to collect 100 cases.

The discovery of ventriculography was made in 1917, and in the *Annals of Surgery* for September, 1919, Dandy has related the incident which was the starting-point of his most important work. In January, 1917, as a member of Halsted's staff he was asked to see a case of suspected intestinal perforation in the medical wards at Johns Hopkins Hospital. The diagnosis had fluctuated between typhoid fever and acute miliary tuberculosis with intestinal involvement. An operation was (characteristically enough) "agreed upon"; but there were some who were not satisfied; so on the way to the operating-theatre they examined an X-ray film of the chest which had been taken a few hours before, and this showed the dome of the diaphragm clearly outlined from the liver by a zone of free gas, whose presence was subsequently confirmed by operation. Dandy saw at once the diagnostic advantages to be expected from injecting air into body cavities and photographing the X-ray appearances. In July, 1918, he published his first paper on ventriculography, and this was followed quickly by papers on encephalography, on the diagnosis of hydrocephalus from stricture of the aqueduct of Sylvius, and on the use of ventricular estimation in localisation of intracranial tumours in patients who were too ill for ventriculography. As is well known, ventriculography added greatly to the precision of localisation of expanding intracranial lesions; indeed it played a major part in opening up the field of intracranial surgery. Dandy applied it to the diagnosis of pineal and third-ventricle tumours and was the first surgeon to remove successfully a pineal tumour and a benign colloid cyst of the third ventricle. In each case he designed an operative approach.

He was a dexterous and bold surgeon. He advocated total removal of acoustic tumours (1922), as opposed to the more conservative intracapsular enucleation of Cushing which could usually be carried out without producing facial palsy. He introduced the operation of removal of the anterior part of the frontal lobe to obtain access to basal meningiomas, and the operation of complete removal of the right cerebral hemisphere for malignant glioma producing hemiplegia. He worked out an approach to the cranial nerves in the cerebellopontine angle through which he divided the 5th nerve for trigeminal neuralgia, the 8th nerve for aural vertigo, and the 9th nerve for glossopharyngeal neuralgia. He described prolapse of the intervertebral disk, with operations in two cases, in 1929, and suggested that it offered a pathological basis for sciatica; but he evidently did not follow this up at the time and though he became a whole-hearted devotee of the operation later in his life it remained for Ayer and Mixter to establish the frequent relationship of prolapsed disk and sciatica.

Besides devising other operations Dandy made important contributions to the study of angiomatous malformations and other lesions of the brain. Indeed, there are few fields in the surgery of the central nervous system on which this brilliant experimenter did not leave his mark, and his volume on intracranial surgery in Dean Lewis's *Practice of Surgery* is a monument to his originality and his power of grasping the essentials of a problem.

In the clinical side of his work Dandy appeared to be less interested, and his writings on clinical subjects were sometimes too dogmatic to carry conviction. He was the very antithesis of Harvey Cushing, and this at times obtruded itself in their relations with one another, though not in their later years. Neurosurgeons are wont to compare the two and their contributions to neurosurgery—the one a comparatively lonely worker influencing the subject mainly by his ideas developed by operative experiments; the other always a cautious doctor, using the experimental method with less power but greater thoroughness, and irradiating his personality over pupils in many lands. The usual conclusion is that both types are essential to the progress of medicine.

Medical Diary

MAY 12–18

Monday, 13th

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1
8 P.M. Mr. J. Johnston Abraham: The Two Fothergills. (Annual oration.)

Tuesday, 14th

ROYAL SOCIETY OF MEDICINE, 1, Wimpole Street, W.1
5.30 P.M. *Experimental Medicine and Therapeutics.* Dr. Sheila T. Callender, Dr. J. F. Loutit: Life and Death of the Red Blood Corpuscle.
5.30 P.M. *Psychiatry.* Dr. C. P. Blacker, Dr. Thomas Beaton: Organisation of a Psychiatric Outpatient Service.

Wednesday, 15th

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH
4.30 P.M. (Bangour Hospital.) Prof. Charles Cameron: Demonstration of cases.

Thursday, 16th

ROYAL COLLEGE OF SURGEONS, Lincoln's Inn Fields, W.C.2
5 P.M. Mr. B. W. Rycroft: War Wounds of the Eye and their Treatment. (Hunterian lecture.)
ROYAL SOCIETY OF MEDICINE
5 P.M. *Dermatology.* Dr. R. G. Cochrane: Significance of Cellular Changes in the Corium in the Pathology and Diagnosis of Leprosy. (Cases will be shown at 4 P.M.)
ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 26, Portland Place, W.1
8 P.M. Colonel Thomas T. Mackie: Observations on Tsutsugamushi Disease (Scrub Typhus) in Assam and Burma.

Friday, 17th

ROYAL SOCIETY OF MEDICINE
8 P.M. *Obstetrics and Gynæcology.* Clinico-pathological meeting.
8 P.M. *Radiology.* Dr. S. Cochrane Shanks: Place of the Radiologist in a National Health Organisation.
TUBERCULOSIS ASSOCIATION
5 P.M. (26, Portland Place, London, W.1.) Dr. Brian Thompson: Primary Pleurisy with Effusion—Clinical and Epidemiological Features and After-history of 190 Cases.
8 P.M. Mr. W. T. Russell, D.SC., Dr. Norman England: Morbidity of Tuberculosis.

Births, Marriages, and Deaths

BIRTHS

BRAY.—On April 21, in London, the wife of Dr. John Bray—a son.
DAVIES.—On March 24, in Abadan, Southern Iran, the wife of Mr. E. R. Davies, F.R.C.S.—a son.
EDWARDS.—On April 30, at Leamington Spa, the wife of Lieut.-Colonel G. F. Edwards, M.B.E., R.A.M.C.—a daughter.
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NEWSOME.—On April 27, at Tonbridge, the wife of Dr. John Newsome—a son.
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MARRIAGES

BALL—WOODHOUSE.—On April 27, in London, Dr. Keith Ball to Francesca Woodhouse.
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DUNKLEY—MOORE.—On April 26, in Edinburgh, Ernest Weightman Dunkley, M.B., to Edith Moore.
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DEATHS

DAY.—On April 27, William Frank Lydstone Day, M.B. Camb., of Truro, Cornwall.
TURNER.—On April 27, in London, Rosa Turner, L.R.C.P.E., formerly of Gower Street, W.C.1.

Notes and News

MAKING HOSPITAL APPOINTMENTS

THE Middlesex County Council has approved a new system of selecting candidates for the senior posts in its hospitals. For each appointment a small professional committee will be formed, composed of the medical director and some of the senior members of the hospital concerned, together with a few seniors from other hospitals in the county and the county medical officer of health. This arrangement was recommended as having three advantages: (1) a man holding a temporary appointment will be less likely to be preferred to a better man who is less known to the county authorities; (2) it will give confidence to the medical profession that appointments are made not only impartially but by expert assessors; and (3) as the county's hospitals are tending to become teaching centres, confidence will similarly be given to the University of London, which it is hoped will coöperate in the scheme.

As regards the junior appointments (those of house-officers and the like), an opposite course is proposed. These appointments have so multiplied that much time is wasted in assembling committees to deal with them. The Middlesex public-health committee has decided to leave them in the hands of the medical director of the hospital concerned, in consultation with the appropriate senior members of his staff. In the selection of candidates for the intermediate appointments (those of chief assistants, registrars, &c.) no change in the present procedure is contemplated.

RELEASE OF PENICILLIN

AT a press conference in London on May 1, Mr. John Wilmot, the Minister of Supply, announced that penicillin would be on sale to the public against a doctor's prescription in the near future—probably from June 1. It is also to be sold in lozenges and ointments; and it may be employed for veterinary purposes. The price to the public has not yet been determined. Production by deep culture, a method developed in the United States, is now proceeding in factories at Speke and Barnard Castle. Whereas the average monthly production in this country was 300 mega units in 1943, 3166 mega units in 1944, and 26,000 mega units in 1945, it had risen to over 260,000 mega units by last month. Potency, formerly 150 units per mg., and recently raised to 300 units per mg., has been still further increased, and much of the penicillin now produced exceeds 1000 units per mg.

A BRITISH-SWISS CONFERENCE

THE Swiss Academy of Medical Sciences is organising a British-Swiss medical conference to be held in Basle from Sept. 16 to 21. British doctors are cordially invited to participate and bring their families, for whose entertainment special arrangements will be made. An organising committee has been set up in England, under the chairmanship of the president of the Royal Society of Medicine, including representatives of the royal colleges, the Medical Research Council, the Physiological Society, the Pathological Society, and the British Council. A detailed programme of speakers and subjects will be announced later. Reservations are being arranged by Thomas Cook & Son, Berkeley Street, London, W.1, to whom applications should be sent before July 1.

AMERICAN TUBERCULOSIS STATISTICS

THE United States can show good results in the advancing control of tuberculosis.[1] In 1944 there were 54,123 deaths and 124,789 new cases, with a death-rate of 40·8 per 100,000. This may be compared with death-rates for 1943 of 61·9 in England and Wales, 78·6 in Scotland, 130·4 in Eire, and 47·1 in Canada. Between 1939 and 1943 the rate in England and Wales rose by 0·1 per 100,000, and between 1939 and 1944 it rose by 8·2 in Scotland and 17·8 in Eire. On the other hand in the United States and Canada between 1939 and 1944 the rates fell by 6·3 and 6·0—no doubt reflecting better feeding and living conditions. The low American rates show startling variations within racial groups. The negroes, at once poorer and more susceptible than the average white population, show high death-rates. Thus in New York City in 1944 the death-rate among the coloured population was 189 per 100,000, as against a rate of 35 among whites and a combined death-rate of 46. In New York the death-rate is higher among men (64·7 per 100,000) than among women (31·1), and deaths are most numerous among men aged 50–59 and women aged 20–29.

1. Tuberculosis Reference Statistical Yearbook, 1944. New York Tuberculosis and Health Association. 1945.

During the period 1939–44, there were no less than 350,103 deaths from tuberculosis in the United States, with nearly double that number of new registrations. This figure is seen in perspective when it is realised that American casualties during the war numbered 256,996 killed and 651,261 wounded.

CONVICTIONS FOR ABORTION

DURING the years 1939 to 1944, 600 people were convicted for procuring, or assisting at, abortions.[1] In 533 of the convictions instruments were used and in 67 drugs. The following table gives the number of medically qualified and unqualified persons involved:

Year	Number of convictions		
	Qualified	Unqualified	Total
1939 ..	2	65	67
1940 ..	1	52	53
1941 ..	0	66	66
1942 ..	2	101	103
1943 ..	4	158	162
1944 ..	5	144	149

University of Cambridge

On May 3 the following degrees were conferred:

M.D.—A. G. V. Aldridge (by proxy) and G. C. Tooth.

M.B., B.Chir.—R. W. P. Jackson, B. A. J. C. Gregory, R. N. Grabowsky-Atherstone, P. N. Magee (all by proxy), and A. H. Littlewood. *M.B.*—R. G. Orr (by proxy).

University of Edinburgh

Prof. James Rögnvald Learmonth, C.B.E., CH.M., F.R.C.S.E., has been appointed regius professor of clinical surgery. The chair has been vacant since Sir John Fraser, its former holder, became principal of the university.

A native of Kirkcudbright, Professor Learmonth was born in 1895, and graduated with honours at Glasgow in 1921, when he was awarded the Brunton memorial prize as the most distinguished graduate of the year. From 1922 to 1928 he worked as assistant to Prof. Archibald Young, first in the Anderson College of Medicine, Glasgow, and later in Glasgow University. In 1924, with a Rockefeller fellowship, he spent a year at the Mayo Clinic, to which he returned in 1928 with an appointment as neurological surgeon; he was also associate professor of neurological surgery in the University of Minnesota. In 1932 he succeeded Sir John Murdoch as regius professor of surgery in the University of Aberdeen, and in 1939 he was appointed to the chair of surgery in Edinburgh University. Professor Learmonth will be the first to occupy this chair combined with that of clinical surgery. He is surgeon to His Majesty's Household in Scotland, and a member of the Army Medical Advisory Board.

Association of Surgeons of Great Britain and Ireland

The annual meeting held in London early this week under the presidency of Sir Max Page was attended by a dozen surgeons from France and Belgium—Leriche, Bazy, Santy, Lortat-Jacob, Mathey, Berat, de Baiseux, Albert, Déjardin, Morelle, Segound, and Mayer. At the dinner at Claridge's on Tuesday night Sir Alfred Webb-Johnson, P.R.C.S., proposing The Guests, introduced them to the company by asking each to rise in his place. He spoke of the emotion felt at this reunion after long years of trial, and of the admiration of British surgeons for the patience and fortitude of their colleagues—their faith so difficult to keep burning, and their cold resolve. What at great risk they had done for our men would never be forgotten. Prof. René Leriche, in reply, related how in the difficult years he read the works of the older English surgeons, down to Astley Cooper, and was impressed by the essential unity of surgical thought. The need of surgeons today was to break down isolation—to meet and work in common. Responding to the toast of The Association, proposed by Sir Claude Frankau, Sir Max Page welcomed the return of international surgery: it was essential, he felt, to encourage interchange of ideas, cultivate good fellowship, and promote the science. Sir Alexander Hood, as director-general of Army Medical Services, testified to the achievements of surgeons during the late war. By its effect on the morale of the troops, efficient care of the sick had contributed enormously to victory, and the presence of specialist surgical teams near the front had an immense influence. A team spirit prevailed in the medical service, and the consultants had done much to improve results by spreading the latest gospel among the younger men. With the return of peace the medical branches of the Services did not want to go into a state of professional isolation: "we want to be mixed up with you."

1. *Hansard*, April 30, 1946, para. 7.

University of Dublin

As announced last week, Mr. Adams Andrew McConnell has been appointed regius professor of surgery in the university in succession to the late Sir Arthur Ball.

Mr. McConnell was educated at the Royal Academical Institution, Belfast, and the University of Dublin. As an undergraduate he obtained the Trinity College scholarship in anatomy and the institutes of medicine. After taking a B.A. in 1906, when he was first senior moderator (large gold medal) in natural science, he qualified M.B. in 1909. He was appointed assistant surgeon to the Richmond Hospital in 1910, and was promoted to the senior staff in 1914. He held the post of lecturer in applied anatomy in Trinity College and the chair of surgery at the Royal College of Surgeons in Ireland. He became a fellow of the Royal College of Surgeons in Ireland in 1911 and was president from 1936 to 1938. Mr. McConnell was an original member of the Society of British Neurological Surgeons, of which he was president from 1936 to 1938. His earlier publications were on general surgical subjects, but the more recent have dealt with the surgery of intracranial lesions. The degree of M.CH. (honoris causa) was recently conferred on Mr. McConnell by the senate of Dublin University.

Northern Ireland Health Services

Subject to the approval of their parliament, the government of Northern Ireland have accepted financial responsibility for the provision of a site for a new hospital for Londonderry and the north-west area of Northern Ireland. Later, this hospital will take its place in the framework of a comprehensive national health service, which the government are determined that Northern Ireland shall have. The new hospital at Londonderry will ultimately have 400–500 beds, and a maternity section is to be provided first because of its special urgency.

Edinburgh University Club of London

The first postwar reunion of the club will take place at the May Fair Hotel, Berkeley Street, London, W.1, on May 29, at 6.30 P.M., when members may meet the president-elect, Sir John Anderson, F.R.S., and Lady Anderson. Any member not receiving his invitation by May 18 should communicate with the hon. secretary, Dr. Bruce Williamson, 12, Wimpole Street, W.1.

Royal Medico-Psychological Association

The next quarterly meeting will be held at the Retreat, York, on May 17. Speakers will include Dr. Gwendoline D. Knight, who will talk on Quaker Contribution to Psychiatric Thought and Practice; and Mr. G. F. Rowbotham, whose subject will be The Problem of Migraine as an Introduction to the Autonomic Nervous System.

Return to Practice

The Central Medical War Committee announces that Mr. J. C. F. LLOYD WILLIAMSON, F.R.C.S., has resumed civilian practice at 34, The Drive, Hove, Sussex. The committee regrets the error in the announcement of Mr. W. A. Mill's return to practice. Mr. W. A. MILL, M.S., F.R.C.S., is now in practice at 22, Harley Street, W.1 (Langham 1923).

London Students and the School Health Service

Students from St. Mary's Hospital are to attend L.C.C. school medical inspections and to visit the council's schools for physically and mentally handicapped children. The council's education committee favours the development of this arrangement with other voluntary hospitals, as was recommended in the Goodenough Committee's report.

Presentation to Mr. H. J. Nightingale

On his retirement from the staff of the Royal South Hants and Southampton Hospital, Mr. H. J. Nightingale has been presented with his portrait. Mr. Nightingale, who has been senior honorary surgeon for 14 years, has been appointed an honorary consulting surgeon and a vice-president of the hospital.

British Association of Physical Medicine

The annual general meeting will be held at the Royal College of Surgeons, Lincoln's Inn Fields, London, W.C.2, on May 15, at 5.30 P.M. It will be followed by a dinner in the college.

Chemical Exhibition

An exhibition of recent chemical discoveries, which has been organised by Imperial Chemical Industries Ltd., is to be held at the Tea Centre, Lower Regent Street, London, S.W.1, from June 5 to 28. In the medical section, prominence will be given to the sulpha drugs, penicillin, and 'Paludrine.' Other sections will show chemistry's recent contributions to agriculture, the control of insects, the development of plastics, and the discovery of 'Ardil,' a wool-like protein made from monkey-nuts.

British Orthopædic Association

The spring meeting of the association will be held at Newcastle-on-Tyne on May 24 and 25.

Children's Moral Welfare Committee

The annual meeting of this committee, of which Prof. Alan Moncrieff, F.R.C.P., is chairman, will be held at St. Pancras Town Hall on May 23, at 5.15 P.M. The speakers will be Mr. D. R. Mace, PH.D., and Miss Glyn-Jones.

West London Medico-Chirurgical Society

Dr. G. S. Hovenden will deliver his presidential address, postponed from March 15, at a meeting at the West London Hospital, on May 17, at 8.30 P.M. He will speak on Fifty Years of General Practice.

Summer Schools on Healthy Living

The Scottish Council for Health Education is organising three residential summer schools on healthy living, two at St. Andrews and one at Edinburgh University. Inquiries should be directed to the council's secretary at 3, Castle Street, Edinburgh, 2.

British Association of Urological Surgeons

The annual general meeting will be held in London from June 27 to 29, mainly at the Royal College of Surgeons, Lincoln's Inn Fields, W.C.2, under the presidency of Mr. R. Ogier Ward. Thursday afternoon will be occupied by business and the consideration of a draft memorandum entitled A Urological Survey of Britain. On Friday there will be a discussion on the Treatment of Benign Enlargement of the Prostate, followed by operating sessions in the afternoon and a dinner at the college in the evening. On Saturday morning films of urological interest will be shown.

COMMONWEALTH FUND: *Corrigendum.*—Among the new grants from this fund mentioned in our issue of March 30 (p. 483) was one for the investigation of the possibility that "a specific toxin of cancer occurs in a hereditary pattern." This should have read "a specific form of cancer occurs in a hereditary pattern."

On Active Service

CASUALTIES

DIED

Lieut.-Colonel GILBERT WOLRIDGE ROSE, M.B. Aberd., R.A.M.C.

Major HAMISH BARROWMAN, M.B. Glasg., R.A.M.C.

Lieutenant J. EVANS, R.A.M.C.

Appointments

MACDOUGALL, I. A., M.R.C.S., D.P.H.: deputy M.O.H., and deputy school M.O., Bournemouth.

PERRY, K. M. A., M.D. Camb., M.R.C.P.: asst. physician (thoracic department), London Hospital.

RAVEN, R. W., F.R.C.S.: surgeon, Royal Cancer Hospital (Free), London.

RUSBY, N. L., D.M. Oxfd, M.R.C.P.: asst. physician (thoracic department), London Hospital.

SINTON, A. S. R., M.R.C.S.: police surgeon, Leeds.

STEVENSON, D. S., M.B.E., M.B. Glasg., F.R.F.P.S.: medical referee for the sheriff-court districts of Glasgow, Lanark, Hamilton, Airdrie, and Dumbarton.

Middlesex Hospital.—The following appointments have been made:—

BETTLEY, F. RAY, M.D. Lond., M.R.C.P.: physician for diseases of the skin.

GOLDSMITH, A. J. B., M.B. Lond., F.R.C.S.: asst. ophthalmic surgeon.

HANDLEY, R. S., O.B.E., B.CHIR. Camb., F.R.C.S.: asst. surgeon.

Norfolk and Norwich Hospital.—The following appointments have been announced:—

BENTALL, A. P., M.B. Camb., M.R.C.O.G.: asst. surgeon to obstetric and gynæcological depts.

BIRT, A. B., M.B. Lond., F.R.C.S.: asst. surgeon.

OLIVER, W. A., M.B.E., M.D. Lond., M.R.C.P.: asst. physician.

RICE, R. A. C., M.B. Lond., D.A.: anæsthetist.

RUTLEDGE, W. E., L.R.C.P.I., D.O.M.S.: ophthalmic surgeon.

SMITH, A. G., M.D. Edin.: dermatologist.

TOWNSLEY, N. J., M.B. Belf., F.R.C.S.: asst. surgeon.

Colonial Medical Service.—The following appointments are announced:—

AUSTIN, C. J., O.B.E., M.B. Edin.: M.O. (grade 1), Fiji.

BECKFORD, J. H., L.R.C.P.E.: asst. M.O., Jamaica.

BOLAND, R. A., M.R.C.S.: M.O. (grade c), Trinidad.

CHWATT, Major L. J.: medical entomologist, Nigeria.

DATE, Miss A. T., M.B.: M.O. (grade c), Trinidad.

D'OFFAY, R. M., M.B. Edin.: M.O., Seychelles.

KELSICK, H. E., M.B. St. And.: supernumerary M.O., Leeward Islands.

PARK, Captain ROBERT, M.R.C.S.: M.O., Nyasaland.

RUSH, Major S. V., M.R.C.S.: M.O., Uganda.

WALCOTT, A. L., L.R.C.P.E.: asst. M.O., Jamaica.

WATSON, W. H., M.D. Glasg.: senior M.O., Nyasaland.

WINSTON, R. M., M.B. Manc.: M.O., Nigeria.

Now for the treatment of NERVOUS INSOMNIA

'EVIDORM' is a mixture of 'Evipan,' 4 grains (0.25g) and 'Phanodorm' calcium, 1½ grains (0.1g).

RAPID ONSET OF SLEEP

PROLONGED EFFECT

HIGH DEGREE of TOLERANCE

'EVIDORM,' because of its 'Evipan' content, causes rapid induction of sleep, often within fifteen minutes of administration. It is indicated particularly in cases of nervous insomnia where sleep is slow in occurrence.

The action of 'Phanodorm' Calcium, the other component of 'EVIDORM,' is slower in onset than 'Evipan' but persists for six to eight hours. Sleep closely resembling the normal is produced and the patient awakes refreshed and rested.

'EVIDORM' has been subjected to animal and clinical experiments to determine the optimum proportions of the two hypnotics with regard to their efficiency and tolerance. Side-effects and "hangover" are rarely encountered.

TRADE 'EVIDORM' MARK

BRAND OF

METHEXIPAN

Tablets of 5½ *grains* (0.35g): *available in tubes of* 10 *and bottles of* 50 *and* 250.

BAYER PRODUCTS LIMITED · AFRICA HOUSE · KINGSWAY · LONDON · W.C.2

Obituary

WALTER EDWARD DANDY

M.D., F.A.C.S.

THE death is announced of Walter Dandy, professor of neurological surgery at Johns Hopkins University, Baltimore. Born in 1886 of parents who came from Lancashire, he qualified in 1910 and became assistant to Harvey Cushing in the Old Hunterian Laboratory at Johns Hopkins. At that time he worked on the blood and nerve supply of the hypophysis, but it was not until 1913–19 that he showed his powers as a surgical experimentalist by his observations, partly with Kenneth Blackfan, on internal hydrocephalus, in which he proved in dogs that the cerebrospinal fluid was formed at the choroid plexus, and boldly attacked infantile hydrocephalus by excision of the choroid plexuses of the lateral ventricles. At this time also he was assessing with George Heuer the value of radiography in the diagnosis of brain tumours, of which they were able to collect 100 cases.

The discovery of ventriculography was made in 1917, and in the *Annals of Surgery* for September, 1919, Dandy has related the incident which was the starting-point of his most important work. In January, 1917, as a member of Halsted's staff he was asked to see a case of suspected intestinal perforation in the medical wards at Johns Hopkins Hospital. The diagnosis had fluctuated between typhoid fever and acute miliary tuberculosis with intestinal involvement. An operation was (characteristically enough) "agreed upon"; but there were some who were not satisfied; so on the way to the operating-theatre they examined an X-ray film of the chest which had been taken a few hours before, and this showed the dome of the diaphragm clearly outlined from the liver by a zone of free gas, whose presence was subsequently confirmed by operation. Dandy saw at once the diagnostic advantages to be expected from injecting air into body cavities and photographing the X-ray appearances. In July, 1918, he published his first paper on ventriculography, and this was followed quickly by papers on encephalography, on the diagnosis of hydrocephalus from stricture of the aqueduct of Sylvius, and on the use of ventricular estimation in localisation of intracranial tumours in patients who were too ill for ventriculography. As is well known, ventriculography added greatly to the precision of localisation of expanding intracranial lesions; indeed it played a major part in opening up the field of intracranial surgery. Dandy applied it to the diagnosis of pineal and third-ventricle tumours and was the first surgeon to remove successfully a pineal tumour and a benign colloid cyst of the third ventricle. In each case he designed an operative approach.

He was a dexterous and bold surgeon. He advocated total removal of acoustic tumours (1922), as opposed to the more conservative intracapsular enucleation of Cushing which could usually be carried out without producing facial palsy. He introduced the operation of removal of the anterior part of the frontal lobe to obtain access to basal meningiomas, and the operation of complete removal of the right cerebral hemisphere for malignant glioma producing hemiplegia. He worked out an approach to the cranial nerves in the cerebellopontine angle through which he divided the 5th nerve for trigeminal neuralgia, the 8th nerve for aural vertigo, and the 9th nerve for glossopharyngeal neuralgia. He described prolapse of the intervertebral disk, with operations in two cases, in 1929, and suggested that it offered a pathological basis for sciatica; but he evidently did not follow this up at the time and though he became a whole-hearted devotee of the operation later in his life it remained for Ayer and Mixter to establish the frequent relationship of prolapsed disk and sciatica.

Besides devising other operations Dandy made important contributions to the study of angiomatous malformations and other lesions of the brain. Indeed, there are few fields in the surgery of the central nervous system on which this brilliant experimenter did not leave his mark, and his volume on intracranial surgery in Dean Lewis's *Practice of Surgery* is a monument to his originality and his power of grasping the essentials of a problem.

In the clinical side of his work Dandy appeared to be less interested, and his writings on clinical subjects were sometimes too dogmatic to carry conviction. He was the very antithesis of Harvey Cushing, and this at times obtruded itself in their relations with one another, though not in their later years. Neurosurgeons are wont to compare the two and their contributions to neurosurgery—the one a comparatively lonely worker influencing the subject mainly by his ideas developed by operative experiments; the other always a cautious doctor, using the experimental method with less power but greater thoroughness, and irradiating his personality over pupils in many lands. The usual conclusion is that both types are essential to the progress of medicine.

Medical Diary

MAY 12–18

Monday, 13th

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1
8 P.M. Mr. J. Johnston Abraham: The Two Fothergills. (Annual oration.)

Tuesday, 14th

ROYAL SOCIETY OF MEDICINE, 1, Wimpole Street, W.1
5.30 P.M. *Experimental Medicine and Therapeutics.* Dr. Sheila T. Callender, Dr. J. F. Loutit: Life and Death of the Red Blood Corpuscle.
5.30 P.M. *Psychiatry.* Dr. C. P. Blacker, Dr. Thomas Beaton: Organisation of a Psychiatric Outpatient Service.

Wednesday, 15th

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH
4.30 P.M. (Bangour Hospital.) Prof. Charles Cameron: Demonstration of cases.

Thursday, 16th

ROYAL COLLEGE OF SURGEONS, Lincoln's Inn Fields, W.C.2
5 P.M. Mr. B. W. Rycroft: War Wounds of the Eye and their Treatment. (Hunterian lecture.)
ROYAL SOCIETY OF MEDICINE
5 P.M. *Dermatology.* Dr. R. G. Cochrane: Significance of Cellular Changes in the Corium in the Pathology and Diagnosis of Leprosy. (Cases will be shown at 4 P.M.)
ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 26, Portland Place, W.1
8 P.M. Colonel Thomas T. Mackie: Observations on Tsutsugamushi Disease (Scrub Typhus) in Assam and Burma.

Friday, 17th

ROYAL SOCIETY OF MEDICINE
8 P.M. *Obstetrics and Gynæcology.* Clinico-pathological meeting.
8 P.M. *Radiology.* Dr. S. Cochrane Shanks: Place of the Radiologist in a National Health Organisation.
TUBERCULOSIS ASSOCIATION
5 P.M. (26, Portland Place, London, W.1.) Dr. Brian Thompson: Primary Pleurisy with Effusion—Clinical and Epidemiological Features and After-history of 190 Cases.
8 P.M. Mr. W. T. Russell, D.SC., Dr. Norman England: Morbidity of Tuberculosis.

Births, Marriages, and Deaths

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As regards the junior appointments (those of house-officers and the like), an opposite course is proposed. These appointments have so multiplied that much time is wasted in assembling committees to deal with them. The Middlesex public-health committee has decided to leave them in the hands of the medical director of the hospital concerned, in consultation with the appropriate senior members of his staff. In the selection of candidates for the intermediate appointments (those of chief assistants, registrars, &c.) no change in the present procedure is contemplated.

RELEASE OF PENICILLIN

AT a press conference in London on May 1, Mr. John Wilmot, the Minister of Supply, announced that penicillin would be on sale to the public against a doctor's prescription in the near future—probably from June 1. It is also to be sold in lozenges and ointments; and it may be employed for veterinary purposes. The price to the public has not yet been determined. Production by deep culture, a method developed in the United States, is now proceeding in factories at Speke and Barnard Castle. Whereas the average monthly production in this country was 300 mega units in 1943, 3166 mega units in 1944, and 26,000 mega units in 1945, it had risen to over 260,000 mega units by last month. Potency, formerly 150 units per mg., and recently raised to 300 units per mg., has been still further increased, and much of the penicillin now produced exceeds 1000 units per mg.

A BRITISH-SWISS CONFERENCE

THE Swiss Academy of Medical Sciences is organising a British-Swiss medical conference to be held in Basle from Sept. 16 to 21. British doctors are cordially invited to participate and bring their families, for whose entertainment special arrangements will be made. An organising committee has been set up in England, under the chairmanship of the president of the Royal Society of Medicine, including representatives of the royal colleges, the Medical Research Council, the Physiological Society, the Pathological Society, and the British Council. A detailed programme of speakers and subjects will be announced later. Reservations are being arranged by Thomas Cook & Son, Berkeley Street, London, W.1, to whom applications should be sent before July 1.

AMERICAN TUBERCULOSIS STATISTICS

THE United States can show good results in the advancing control of tuberculosis.[1] In 1944 there were 54,123 deaths and 124,789 new cases, with a death-rate of 40·8 per 100,000. This may be compared with death-rates for 1943 of 61·9 in England and Wales, 78·6 in Scotland, 130·4 in Eire, and 47·1 in Canada. Between 1939 and 1943 the rate in England and Wales rose by 0·1 per 100,000, and between 1939 and 1944 it rose by 8·2 in Scotland and 17·8 in Eire. On the other hand in the United States and Canada between 1939 and 1944 the rates fell by 6·3 and 6·0—no doubt reflecting better feeding and living conditions. The low American rates show startling variations within racial groups. The negroes, at once poorer and more susceptible than the average white population, show high death-rates. Thus in New York City in 1944 the death-rate among the coloured population was 189 per 100,000, as against a rate of 35 among whites and a combined death-rate of 46. In New York the death-rate is higher among men (64·7 per 100,000) than among women (31·1), and deaths are most numerous among men aged 50–59 and women aged 20–29.

During the period 1939–44, there were no less than 350,103 deaths from tuberculosis in the United States, with nearly double that number of new registrations. This figure is seen in perspective when it is realised that American casualties during the war numbered 256,996 killed and 651,261 wounded.

CONVICTIONS FOR ABORTION

DURING the years 1939 to 1944, 600 people were convicted for procuring, or assisting at, abortions.[1] In 533 of the convictions instruments were used and in 67 drugs. The following table gives the number of medically qualified and unqualified persons involved:

Year	Number of convictions		
	Qualified	Unqualified	Total
1939 ..	2	65	67
1940 ..	1	52	53
1941 ..	0	66	66
1942 ..	2	101	103
1943 ..	4	158	162
1944 ..	5	144	149

University of Cambridge

On May 3 the following degrees were conferred:

M.D.—A. G. V. Aldridge (by proxy) and G. C. Tooth. *M.B., B.Chir.*—R. W. P. Jackson, B. A. J. C. Gregory, R. N. Grabowsky-Atherstone, P. N. Magee (all by proxy), and A. H. Littlewood. *M.B.*—R. G. Orr (by proxy).

University of Edinburgh

Prof. James Rögnvald Learmonth, C.B.E., CH.M., F.R.C.S.E., has been appointed regius professor of clinical surgery. The chair has been vacant since Sir John Fraser, its former holder, became principal of the university.

A native of Kirkcudbright, Professor Learmonth was born in 1895, and graduated with honours at Glasgow in 1921, when he was awarded the Brunton memorial prize as the most distinguished graduate of the year. From 1922 to 1928 he worked as assistant to Prof. Archibald Young, first in the Anderson College of Medicine, Glasgow, and later in Glasgow University. In 1924, with a Rockefeller fellowship, he spent a year at the Mayo Clinic, to which he returned in 1928 with an appointment as neurological surgeon; he was also associate professor of neurological surgery in the University of Minnesota. In 1932 he succeeded Sir John Murdoch as regius professor of surgery in the University of Aberdeen, and in 1939 he was appointed to the chair of surgery in Edinburgh University. Professor Learmonth will be the first to occupy this chair combined with that of clinical surgery. He is surgeon to His Majesty's Household in Scotland, and a member of the Army Medical Advisory Board.

Association of Surgeons of Great Britain and Ireland

The annual meeting held in London early this week under the presidency of Sir Max Page was attended by a dozen surgeons from France and Belgium—Leriche, Bazy, Santy, Lortat-Jacob, Mathey, Berat, de Baiseux, Albert, Déjardin, Morelle, Segound, and Mayer. At the dinner at Claridge's on Tuesday night Sir Alfred Webb-Johnson, F.R.C.S., proposing The Guests, introduced them to the company by asking each to rise in his place. He spoke of the emotion felt at this reunion after long years of trial, and of the admiration of British surgeons for the patience and fortitude of their colleagues—their faith so difficult to keep burning, and their cold resolve. What at great risk they had done for our men would never be forgotten. Prof. René Leriche, in reply, related how in the difficult years he read the works of the older English surgeons, down to Astley Cooper, and was impressed by the essential unity of surgical thought. The need of surgeons today was to break down isolation—to meet and work in common. Responding to the toast of The Association, proposed by Sir Claude Frankau, Sir Max Page welcomed the return of international surgery: it was essential, he felt, to encourage interchange of ideas, cultivate good fellowship, and promote the science. Sir Alexander Hood, as director-general of Army Medical Services, testified to the achievements of surgeons during the late war. By its effect on the morale of the troops, efficient care of the sick had contributed enormously to victory, and the presence of specialist surgical teams near the front had an immense influence. A team spirit prevailed in the medical service, and the consultants had done much to improve results by spreading the latest gospel among the younger men. With the return of peace the medical branches of the Services did not want to go into a state of professional isolation: "we want to be mixed up with you."

1. Tuberculosis Reference Statistical Yearbook, 1944. New York Tuberculosis and Health Association. 1945.

1. *Hansard*, April 30, 1946, para. 7.

University of Dublin

As announced last week, Mr. Adams Andrew McConnell has been appointed regius professor of surgery in the university in succession to the late Sir Arthur Ball.

Mr. McConnell was educated at the Royal Academical Institution, Belfast, and the University of Dublin. As an undergraduate he obtained the Trinity College scholarship in anatomy and the institutes of medicine. After taking a B.A. in 1906, when he was first senior moderator (large gold medal) in natural science, he qualified M.B. in 1909. He was appointed assistant surgeon to the Richmond Hospital in 1910, and was promoted to the senior staff in 1914. He held the post of lecturer in applied anatomy in Trinity College and the chair of surgery at the Royal College of Surgeons in Ireland. He became a fellow of the Royal College of Surgeons in Ireland in 1911 and was president from 1936 to 1938. Mr. McConnell was an original member of the Society of British Neurological Surgeons, of which he was president from 1936 to 1938. His earlier publications were on general surgical subjects, but the more recent have dealt with the surgery of intracranial lesions. The degree of M.CH. (honoris causa) was recently conferred on Mr. McConnell by the senate of Dublin University.

Northern Ireland Health Services

Subject to the approval of their parliament, the government of Northern Ireland have accepted financial responsibility for the provision of a site for a new hospital for Londonderry and the north-west area of Northern Ireland. Later, this hospital will take its place in the framework of a comprehensive national health service, which the government are determined that Northern Ireland shall have. The new hospital at Londonderry will ultimately have 400–500 beds, and a maternity section is to be provided first because of its special urgency.

Edinburgh University Club of London

The first postwar reunion of the club will take place at the May Fair Hotel, Berkeley Street, London, W.1, on May 29, at 6.30 P.M., when members may meet the president-elect, Sir John Anderson, F.R.S., and Lady Anderson. Any member not receiving his invitation by May 18 should communicate with the hon. secretary, Dr. Bruce Williamson, 12, Wimpole Street, W.1.

Royal Medico-Psychological Association

The next quarterly meeting will be held at the Retreat, York, on May 17. Speakers will include Dr. Gwendoline D. Knight, who will talk on Quaker Contribution to Psychiatric Thought and Practice; and Mr. G. F. Rowbotham, whose subject will be The Problem of Migraine as an Introduction to the Autonomic Nervous System.

Return to Practice

The Central Medical War Committee announces that Mr. J. C. F. LLOYD WILLIAMSON, F.R.C.S., has resumed civilian practice at 34, The Drive, Hove, Sussex. The committee regrets the error in the announcement of Mr. W. A. Mill's return to practice. Mr. W. A. MILL, M.S., F.R.C.S., is now in practice at 22, Harley Street, W.1 (Langham 1923).

London Students and the School Health Service

Students from St. Mary's Hospital are to attend L.C.C. school medical inspections and to visit the council's schools for physically and mentally handicapped children. The council's education committee favours the development of this arrangement with other voluntary hospitals, as was recommended in the Goodenough Committee's report.

Presentation to Mr. H. J. Nightingale

On his retirement from the staff of the Royal South Hants and Southampton Hospital, Mr. H. J. Nightingale has been presented with his portrait. Mr. Nightingale, who has been senior honorary surgeon for 14 years, has been appointed an honorary consulting surgeon and a vice-president of the hospital.

British Association of Physical Medicine

The annual general meeting will be held at the Royal College of Surgeons, Lincoln's Inn Fields, London, W.C.2, on May 15, at 5.30 P.M. It will be followed by a dinner in the college.

Chemical Exhibition

An exhibition of recent chemical discoveries, which has been organised by Imperial Chemical Industries Ltd., is to be held at the Tea Centre, Lower Regent Street, London, S.W.1, from June 5 to 28. In the medical section, prominence will be given to the sulpha drugs, penicillin, and 'Paludrine.' Other sections will show chemistry's recent contributions to agriculture, the control of insects, the development of plastics, and the discovery of 'Ardil,' a wool-like protein made from monkey-nuts.

British Orthopædic Association

The spring meeting of the association will be held at Newcastle-on-Tyne on May 24 and 25.

Children's Moral Welfare Committee

The annual meeting of this committee, of which Prof. Alan Moncrieff, F.R.C.P., is chairman, will be held at St. Pancras Town Hall on May 23, at 5.15 P.M. The speakers will be Mr. D. R. Mace, PH.D., and Miss Glyn-Jones.

West London Medico-Chirurgical Society

Dr. G. S. Hovenden will deliver his presidential address, postponed from March 15, at a meeting at the West London Hospital, on May 17, at 8.30 P.M. He will speak on Fifty Years of General Practice.

Summer Schools on Healthy Living

The Scottish Council for Health Education is organising three residential summer schools on healthy living, two at St. Andrews and one at Edinburgh University. Inquiries should be directed to the council's secretary at 3, Castle Street, Edinburgh, 2.

British Association of Urological Surgeons

The annual general meeting will be held in London from June 27 to 29, mainly at the Royal College of Surgeons, Lincoln's Inn Fields, W.C.2, under the presidency of Mr. R. Ogier Ward. Thursday afternoon will be occupied by business and the consideration of a draft memorandum entitled A Urological Survey of Britain. On Friday there will be a discussion on the Treatment of Benign Enlargement of the Prostate, followed by operating sessions in the afternoon and a dinner at the college in the evening. On Saturday morning films of urological interest will be shown.

COMMONWEALTH FUND: *Corrigendum.*—Among the new grants from this fund mentioned in our issue of March 30 (p. 483) was one for the investigation of the possibility that "a specific toxin of cancer occurs in a hereditary pattern." This should have read "a specific form of cancer occurs in a hereditary pattern."

On Active Service

CASUALTIES

DIED

Lieut.-Colonel GILBERT WOLRIDGE ROSE, M.B. Aberd., R.A.M.C.

Major HAMISH BARROWMAN, M.B. Glasg., R.A.M.C.

Lieutenant J. EVANS, R.A.M.C.

Appointments

MACDOUGALL, I. A., M.B.C.S., D.P.H.: deputy M.O.H., and deputy school M.O., Bournemouth.

PERRY, K. M. A., M.D. Camb., M.R.C.P.: asst. physician (thoracic department), London Hospital.

RAVEN, R. W., F.R.C.S.: surgeon, Royal Cancer Hospital (Free), London.

RUSBY, N. L., D.M. Oxfd, M.R.C.P.: asst. physician (thoracic department), London Hospital.

SINTON, A. S. R., M.R.C.S.: police surgeon, Leeds.

STEVENSON, D. S., M.B.E., M.B. Glasg., F.R.F.P.S.: medical referee for the sheriff-court districts of Glasgow, Lanark, Hamilton, Airdrie, and Dumbarton.

Middlesex Hospital.—The following appointments have been made:—

BETTLEY, F. RAY, M.D. Lond., M.R.C.P.: physician for diseases of the skin.

GOLDSMITH, A. J. B., M.B. Lond., F.R.C.S.: asst. ophthalmic surgeon.

HANDLEY, R. S., O.B.E., B.CHIR. Camb., F.R.C.S.: asst. surgeon.

Norfolk and Norwich Hospital.—The following appointments have been announced:—

BENTALL, A. P., M.B. Camb., M.R.C.O.G.: asst. surgeon to obstetric and gynæcological depts.

BIRT, A. B., M.B. Lond., F.R.C.S.: asst. surgeon.

OLIVER, W. A., M.B.E., M.D. Lond., M.R.C.P.: asst. physician.

RICE, R. A. C., M.B. Lond., D.A.: anæsthetist.

RUTHERGH, W. E., L.R.C.P.I., D.O.M.S.: ophthalmic surgeon.

SMITH, A. G., M.D. Edin.: dermatologist.

TOWNSLEY, N. J., M.B. Belf., F.R.C.S.: asst. surgeon.

Colonial Medical Service.—The following appointments are announced:—

AUSTIN, C. J., O.B.E., M.B. Edin.: M.O. (grade 1), Fiji.

BECKFORD, J. H., L.R.C.P.E.: asst. M.O., Jamaica.

BOLAND, E. A., M.R.C.S.: M.O. (grade C), Trinidad.

CHWATT, Major L. J.: medical entomologist, Nigeria.

DATE, Miss A. T., M.B.: M.O. (grade C), Trinidad.

D'OFFAY, R. M., M.B. Edin.: M.O., Seychelles.

KELSICK, H. E., M.B. St. And.: supernumerary M.O., Leeward Islands.

PARK, Captain ROBERT, M.R.C.S.: M.O., Nyasaland.

RUSH, Major S. V., M.R.C.S.: M.O., Uganda.

WALCOTT, A. L., L.R.C.P.E.: asst. M.O., Jamaica.

WATSON, W. H., M.D. Glasg.: senior M.O., Nyasaland.

WINSTON, R. M., M.B. Manc.: M.O., Nigeria.